

NEW iBOOKS AND MAC MINIS: IS IT TIME TO BUY?

110
OCT
2005

MacAddict

A BETTER MACHINE. A BETTER MAGAZINE.

MAKE YOUR MAC
RUN LIKE
NEW

12 WAYS
to transform
your Mac into a
lean, mean,
screamin'
machine!

- Kill RAM-hogging routines!
- Clean out unwanted files!
- Unclutter your caches!

... and much more!



ARE FONTS DRIVING YOU CRAZY?

Our experts show you how to keep them under control

REVIEWED:

EPSON AND HP →
PHOTO PRINTERS

- Pentax OptioWP
- Palm Tungsten E2
- The Sims 2 ... and 20 more



HOW TO:

- Record Audio and Video with QuickTime Pro
- Make Panoramic Photos
- Power Your iPod with a 9-Volt Battery





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VERSION 4..



TECHTOOL[®] PRO
VERSION 4..

*"TechTool Deluxe... It did a long inspection job on my disk... I was able to access it again and it works. you have made me a TechTool customer from here on out. I am truly grateful."
THANK YOU! THANK YOU! THANK YOU!" -Michael F. Washington*

*"... my hard drive was fully recovered... You have a customer for life!"
-Matthew T. Manager of Marketing and Information Technology*

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- Predicts impending drive failures
- Recovers data from severely damaged drives
- Runs multiple tests at the same time
- Finds and repairs problems with your drives
- Optimizes your drives for faster performance
- Tests computer components that no other product can check
- Includes bootable emergency CD-ROM
- Protects by backing up catalog and directory files
- Includes a multitude of tools for testing and adjusting your system
- Recovers lost data that other utilities can't find
- Introducing eDrive, a revolutionary new way to make troubleshooting easier




MICROMAT
INCORPORATED

Tiger compatible...

The complete Macintosh problem solving utility.



Diagnostics and Repair

TechTool® Pro includes options to thoroughly check various hardware components, drives, and other aspects of your computer system. One of the most important tests is the S.M.A.R.T. test, which checks for impending drive failure.



Optimization

This feature defragments the files on your hard drive and consolidates all the free space into one large block. Optimizing enhances the overall performance of your hard drives and simplifies file layout on the disk.



Data Recovery

TechTool Pro includes routines that can search a damaged drive and attempt to recover valid files to another location. Hence, even if a drive is damaged beyond repair, you may still be able to save important data that had not been backed up.



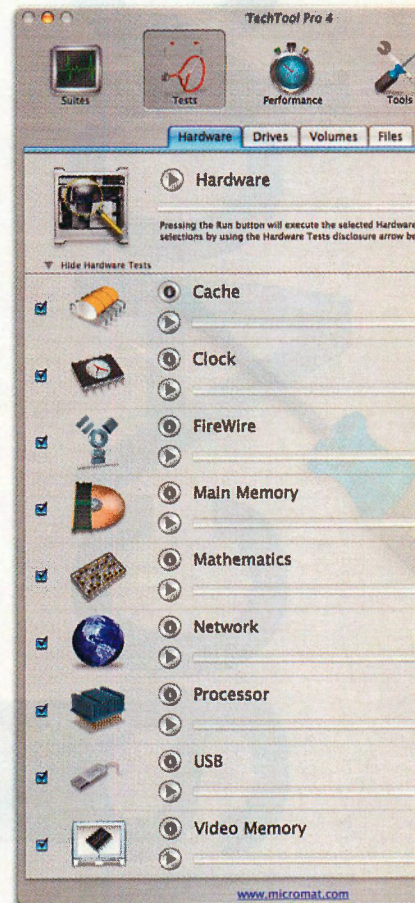
Safety

The Safety feature can be configured to protect your drives by automatically creating backups of critical drive directory data. It can also test the computer for developing problems and alert you, both onscreen and via email, if problems are detected.

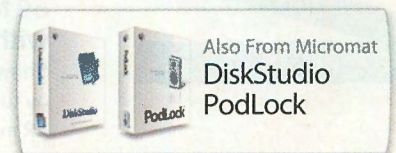


eDrive

One of the most innovative features of TechTool Pro is the eDrive. This is a bootable Mac OS X partition containing TechTool Pro and a small copy of your system that you can use in an emergency. It is created on one of your hard drives without the need to reformat.



Micromat, Inc., 5329 Skylane Blvd., Santa Rosa, CA 95403
800-829-6227 707-566-3831 info@micromat.com www.micromat.com



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Rotate movies, strip out soundtracks, insert movies into other movies, and more when you go Pro with Apple's movie player. by Niko Coucouvanis



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WORK HOW CAN YOUR CLIENT?

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07 Editors' Page

The music industry as we know it is doomed; digital-music downloading has changed all the rules.

10 Get Info

If you're waiting for the Intel switch before you buy, the new iBooks and Mac minis might change your mind. Also: Myst's final chapter and the debut of Apple's eons-overdue two-button mouse.

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We'd spend our own hard-earned money on these products.



78 Log Out

78 Letters

Our readers chime in with bug fixes, advice on making big bucks with blogs, and a treatise on Trusted Computing.

79 Contest

Make us laugh, and you could win a Stylus Photo R1800 printer courtesy of Epson.

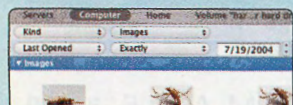
80 Shut Down

The insult that made a G5 out of "Mac mini."

QUICK TIPS FROM THIS MONTH'S ISSUE

➔ FIND, FIND AGAIN

Feeling limited by that Spotlight search box in Tiger's menu bar? Summon a civilized Find window with Command-F to set search locations and other limiting criteria. **From Ask Us, p56.**



➔ TONER TANTRUM

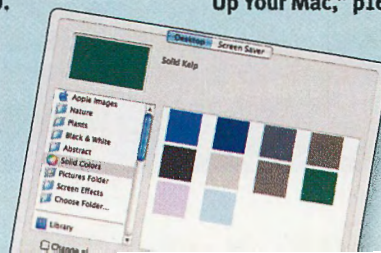
Don't remove a toner cartridge from Konica Minolta's magicolor 2430 DL until it runs out, or the cartridge is history. **From Reviews, p44.**

➔ OUTTA ISIGHT

If your external drive keeps unmounting at inappropriate times, try disconnecting your iSight camera or moving it to a separate FireWire port. **From Get Info, p10.**

➔ DESKTOP MOLASSES

If your Mac is feeling sluggish, consider dumping your desktop wallpaper—believe it or not, a fancy picture can gum up your OS. **From "Clean Up Your Mac," p16.**



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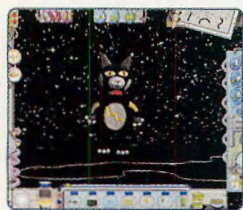


the disc

Looking for a diversion? You'll find it on this month's Disc—whether you're scaring yourself silly with devilish Doom 3 mods and maps, checking out the trailer for Cyan Worlds' *Myst V: End of Ages*, or designing your own distraction with Power Game Factory. We've also got PrintMagic, a utility that lets you control exactly what you print, and everything you need to complete our "Make Better Panoramas with PTMac" how-to on page 59.

Cosmic Blobs demo

If you're terrified of 3D-modeling apps, then try the kid-friendly Cosmic Blobs—you'll be cranking out cool 3D artwork in no time.



Postal 2: Share the Pain demo

Guts, gratuitous violence, and ... Gary Coleman? Try out the demo of Running with Scissors' bloody first-person shooter.



DeltaGraph demo

Are you frustrated with your current spreadsheet app's limited chart- and graph-making abilities? Give DeltaGraph a go.



AUDIO & MUSIC

PatioTunes 1.6 shareware
Peak LE 4.1.3 trial
SoundSoap 2 demo video

DEVELOPMENT

REALbasic 2005 R2 demo

FUN & GAMES

Clickwheel 1.1.3 shareware
Doom 3 Mods freeware
Kill Monty 1.0.3 shareware
Myst V: End of Ages trailer

Postal 2: Share the Pain demo

Power Game Factory 1.0.4 demo

GRAPHICS & MULTIMEDIA

Cosmic Blobs 1.1 trial
PTMac for OS X 3.0 shareware

INTERFACE

Application Enhancer 1.5.1 freeware
WindowShade X 4.0 shareware

INTERNET & COMMUNICATION

OmniWeb 5.1 demo

PRODUCTIVITY

DeltaGraph 5.6.1 demo
NoteBook 2.0 demo
OmniGraffle 3.2.4 demo
OmniOutliner 3.0.3 demo

UTILITIES

DiskTracker (Classic) 2.3.2 shareware

DiskTracker (OS X) 2.3.2 shareware

PrintMagic for OS X 4.0 shareware

TechRestore demo video

SPONSORS

NoteBook 2.0 demo
OmniGraffle 3.2.4 demo
OmniOutliner 3.0.3 demo
OmniWeb 5.1 demo
Peak LE 4.1.3 trial
SoundSoap 2 demo video
TechRestore demo video



Staff Video: Gone to Turkey

What happens when *MacAddict's* editor-in-chief goes to Turkey on vacation and leaves his staff alone with the video camera? You'll have to see it to Istanbulieve it.

UPGRADE

If you don't receive the Disc with your copy of *MacAddict*, you might want to consider upgrading. Each monthly Disc contains cool demos, useful shareware and freeware, and the inimitable *MacAddict* Staff Video. To get 12 issues of *MacAddict* that include this value-packed disc with your subscription (prorated if necessary) for just \$1 more per issue, call 888-771-6222—the operator will take care of everything.



MacAddict

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Let 100 Labels Bloom



Most music-industry suits fronting for major recording labels have more in common with tobacco lobbyists and crank cooks than they do with the artists whose work they pimp. How soul-stultifying is it to work with these guys? Well, if you can stand some off-color language, check out "The Problem with Music" by Steve Albini, musician and audio engineer, which is available all over the Web—at www.arancidamoeba.com/mrr/problemwithmusic.html, for example.

For those of you with more-tender sensibilities, here's Steve's thesis in a nutshell: The major labels are as rapacious and cold-blooded as the duo of hungry lizards that stalked the kitchen in *Jurassic Park*.

And now they want us to feel sorry for them, claiming that P2P music sharing is depressing CD sales. You wanna talk "depressing"? How about the increasing reliance on a megahyped parade of one skanky shameuse after another, rather than steady support for true artists as they develop into mature—and highly profitable—established stars? It's likely that P2P music sharing has, indeed, put a crimp in the major labels' profits, but so have the sonicrap-stuffed CDs that the majors are pushing.

That said, let me quickly point out that illicit downloading of copyrighted material is theft, plain and simple. You can rationalize it all you want, but in your heart you know it's wrong to steal music. It doesn't matter whether such theft harms the good, the bad, or the piggishly ugly—theft is theft.

What *does* matter is that the music industry as we know it is doomed. Even if P2P disappeared tomorrow, digital-music downloading has changed everything. The major labels' chokehold on physical music distribution is being pried loose by digital downloads—and not only by megaplayers such as the iTunes Music Store, but also by a rapidly growing number of independent online music sites such as Bleep (www.bleep.com) that not only encourage creativity among their artists, but give them a fair cut of the online revenue. Just as bloggers are decentralizing news and opinion, small, nimble online music distributors are decentralizing music distribution.

I firmly believe that most people don't want to steal music—but they do want easy access, choice, quality, a fair price, and decent treatment of artists. As independent online music distributors proliferate and word-of-mouth promotes them, both music lovers and musicians will benefit—and that underassistant west-coast promotion man may have to go legit.

Enjoy,

Rk

coming soon: november 2005

Here's what our editors are preparing for the next issue of *MacAddict*.

We'll show you how to turn your Mac into a superphone in our **guide to Mac telephony**. We'll also enable you to **change how you interact with your Mac by customizing its interface** and teach you **where to shop for music for your iPod (aside from the iTunes Music Store)**. We'll also tell you how to brainwash the masses by **making your own podcast**, **exploit your Mac's singing voice in GarageBand**, and **use Photoshop to enlarge your photos** without making a big, pixelated mess. Also: We review some **Mac mini external hard drives**, round up some **iPod accessories**, and tell you whether the Force is with Aspyr's **Star Wars: Battlefront**.

STAFF RANTS

Q. What's your opinion of today's popular music?



Sean Molloy CREATED BY COMMITTEE

What's your opinion of today's popular music?

I can honestly say I don't even recognize eight of *Billboard*'s current Top 10 singles, but I know every single artist on there either by reputation or through late-night-comedy skits—it's more about manufactured personalities and calculated posing than it is music.



Niko Coucouvanis BAZOOKA JOE

What's your opinion of today's popular music?

Thinking back to the last time I had an opinion of popular music (circa 1980), I bet today's pap would drive me into a homicidal rage.



Jake Widman SEMIPOPULAR MECHANIC

What's your opinion of today's popular music?

It sucks, of course—as I write this, Mariah Carey has the number one song in the country. But it's always that way: Ten years ago, the *Friends* theme song was number one. In 1985, it was Duran Duran. In 1975, the Captain and Tennille. Every once in a while something good sneaks through (Gorillaz at number 16? How'd that happen?). Thank God for radios with buttons!



Roman Loyola SOLD OUT

What's your opinion of today's popular music?

Hmm [opens can of Nelly's Pimp Juice], that's a good question [rolls up sleeves of Sean John sweatshirt]. I enjoy pop music, but it seems to be everywhere [downloading Jessica Simpson desktop theme in background]. I get tired of pop songs easily [adjusts No Doubt beanie] and always fall back to listening to NPR [John Mayer's "Daughters" emanates from cell phone]. Hold on, I gotta take this.



Peter Marshutz PLAYLISTER

What's your opinion of today's popular music?

I love today's music; it sounds great on my iPod at work.



Mark Rosenthal MR. OVERLOADED

What's your opinion of today's popular music?

Today's popular music is just too popular—or too populous, rather. Too many bands, too many sounds. It was easier on us simpletons when there were a dozen major bands and a few little ones. At least a few bands bite it each year due to O.D.s, but that doesn't really help much.



Max DISENFRANCHISED

What's your opinion of today's popular music?

You probably shouldn't listen to me; I became bitter and disillusioned with the industry after I lost to that phony Jessica on *The Road to Stardom* last season. Where does Missy Elliott get off criticizing my fashion sense?

Clicks well with others

\$39⁹⁹

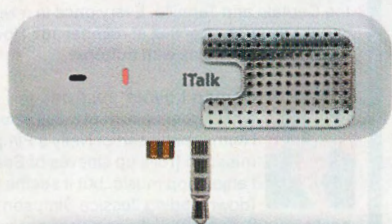


AirClick Remote Control for iPod

- Control your iPod, iPod mini, or computer from up to 60 feet away
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- Swivel clip for easy attachment
- Connects directly to iTalk, iMic, or PowerWave

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- The only FM Transmitter designed exclusively for the iPod & iPod mini
- Powered from the iPod - no batteries necessary
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- Uses any disposable or rechargeable 9-volt battery
- Carry emergency iPod power wherever you go
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- Elegant, protective enclosure for iPod shuffle
- Available in Silver, Purple, Blue and Red
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- Pause and resume live radio or scroll back in time and record

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- Includes everything needed to record albums and tapes to make MP3s and CDs
- Plug-and-Play simple, no install required

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RoadTrip

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- Power and charge an iPod or iPod mini from any 12-volt cigarette lighter
- RoadTrip transmitter module works separately as an FM transmitter for your home computer
- Transmits on a full range of frequencies from 88.1 to 107.9

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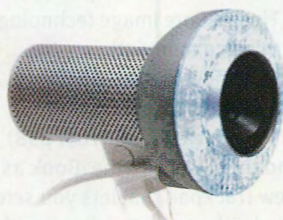


PowerMate

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- Programmable for any application
- Now in Brushed Aluminum and Black

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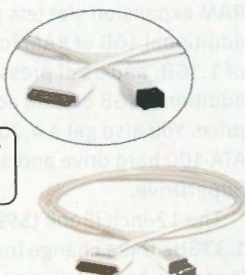
SightLight

FireWire Light for iSight

- Custom-designed Fresnel-based lens diffuses light to even out shadows
- Auto setting automatically senses the amount of ambient room light and adjusts its output accordingly
- Shares the iSight's FireWire connection

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\$19⁹⁹

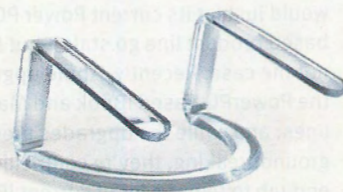


Dock400 & Dock800

Dock Cables for iPod

- Take advantage of the FireWire 800 or FireWire 400 port on your computer – no more unplugging another device to sync your iPod
- Charges and syncs your iPod or iPod mini
- Connects to iPod or iPod Dock

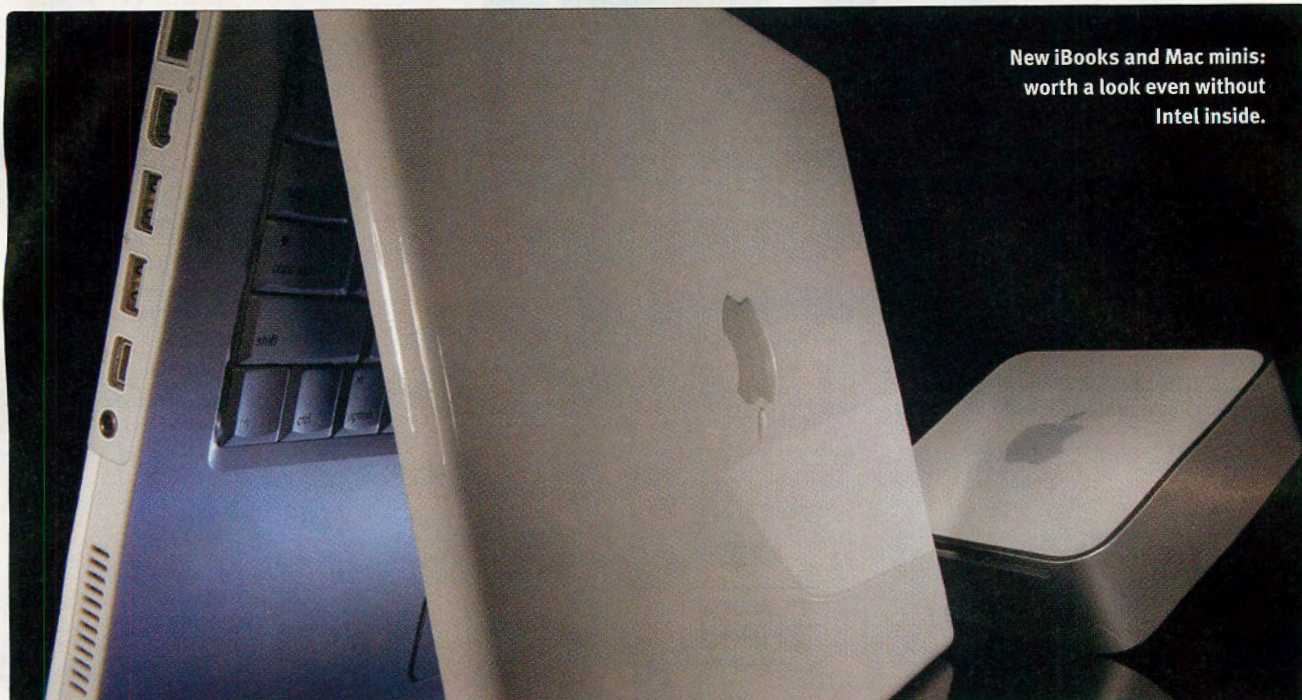
\$39⁹⁹



iCurve

Invisible Laptop Stand

- Keeps laptop cool with maximum air circulation
- Raises laptop screen to the perfect height and creates room on the desktop for an external keyboard and mouse
- Fits all Apple PowerBooks and iBooks



New iBooks and Mac minis:
worth a look even without
Intel inside.

LITTLE MACS GET BIGGER

Apple continues to improve its consumer products, but with Intel around the corner, will anyone be buying?

After Apple's bombshell Intel announcement back in June ("Change Is Good," Aug/05, p10), many assumed that Apple would just let its current Power PC-based product line go stale—but that's not the case. Recently, Apple upgraded the PowerPC-based iBook and Mac mini lines; and while the upgrades aren't groundbreaking, they're compelling enough to tempt a lot of current iBook owners. And for waffling Mac mini shoppers, the upgrades could be just what you were waiting for.

iBook. The iBook line shrinks from three stock models to two. The top-of-the-line 14-inch iBook (\$1,299; the previous top-of-the-line iBook cost \$1,499) is now outfitted with a 1.42GHz G4 processor, up from its predecessor's 1.33GHz G4. With a 142MHz frontside bus, the 14-inch iBook also comes

with 512MB of RAM (up from 256MB in the previous model); as before, a RAM expansion slot lets you add an additional 1GB of RAM for a maximum of 1.5GB; and as of press time, the additional 1GB of RAM adds \$500 to the price. You also get a 4,200-rpm, 60GB ATA-100 hard drive and a single-layer SuperDrive.

The 12-inch iBook (\$999) now uses a 1.33GHz G4, a change from the 1.2GHz it used to have. It also uses a 133MHz frontside bus and comes with more RAM (512MB) than before—and like the 14-inch iBook, it has an additional RAM slot so you add another gig. The 12-incher also comes with a 4,200-rpm, 40GB ATA-100 hard drive and a combo drive—not a SuperDrive.

The graphics subsystem in both 'Books has also been upgraded: A 32MB ATI Radeon 9550 replaces the old

Radeon 9200. The 9550 is a newer-generation graphics chipset that has one main feature that the 9200 didn't have—it's listed as one of the cards that supports Tiger's Core Image technology (more on this in a moment).

Three of the new features that debuted in Apple's recent PowerBook upgrades (see *Reviews*, May/05, p38) have found their way into the iBook as well—a new trackpad that lets you scroll documents by dragging two fingers (the more we use it, the more we like it); a Sudden Motion Sensor designed to park your hard-drive heads in the event of a fall or sudden movement, preventing them from banging against the disk platters; and built-in Bluetooth 2.0+EDR (Enhanced Data Rate) support.

Mac mini. Apple now offers three stock configurations of the Mac mini instead of two, but the changes to the

minis aren't really a whole lot to shout about; the major change is that the *mini* now comes with a stock 512MB of RAM (up from 256MB). Since the stock configurations for the Power Mac, iMac, and the high-end eMac (how's that for a contradiction in terms?) already went up to 512MB earlier this year, it was only a matter of time before the Mac minis followed suit.

Other than the RAM boost, the \$499 1.25GHz Mac mini hasn't changed at all. The \$599 1.42GHz Mac mini now comes with AirPort Extreme and Bluetooth 2.0+EDR, but gone is the 56-Kbps modem. (You can customize your order to get the modem, but it'll add \$29 to the price.) The third configuration, priced at \$699, is the same as the \$599 Mac mini except it has a SuperDrive; the other two configurations come with plain ol' combo drives. You could have added a SuperDrive for \$100 before; Apple's just made it an off-the-shelf option.

Consumer video. The RAM boost across the board is nice—we've been arguing that OS X needs 512MB of RAM for a while—but now we've found a new issue to champion: video support. Tiger's Core Image technology can do amazing things (see "The Future of the Mac: 2005," Nov/04, p16), but the new Mac minis don't meet its hardware requirements. When OS 10.4 (Tiger) sees that the graphics card isn't compatible with Core Image, either the CPU winds up doing all the work that the graphics

processor is supposed to (resulting in a performance hit), or the graphical effect doesn't happen at all. For example, the cool ripple that you see when you call up a Tiger Dashboard widget won't appear on Mac minis.

That's a sacrifice we think you shouldn't have to make—you should get all of the features of an OS you paid for. It's only a matter of time before the cost of video chip sets fall and Core Image-compatible video makes it into the Mac mini line. When that happens, we hope that Apple also decides to up the amount of video RAM included; Core Image's minimum requirement is 32MB of VRAM—and the more VRAM, the better the performance.

Why buy? With Intel Macs coming soon—and with the conventional wisdom that Intel chips will first show up in the minis and laptops—wouldn't it be smarter to wait? Depends. First off, these new iBooks and Mac minis are cheap—at least in computer terms. Of all the new upgrades, only the 14-inch iBook breaks the \$1,000 barrier. Plus, there will be plenty of software to use for at least a few years—remember, Apple is providing developers with tools to create universal binaries so apps will run on both Intel- and PowerPC-based Macs. If your current machine is starting to feel underpowered, do you want to live with it until the Intel Macs are out? If you're still not convinced, there's certainly nothing wrong with waiting until next year.

—Roman Loyola

The improbable has happened again: Apple finally released a multibutton mouse. Really. It's true. And it's called the Mighty Mouse (\$49, www.apple.com). Seriously. No joke.

At first glance (or even second glance), the Mighty Mouse looks like a one-button mouse, but there are actually two separate touch-sensitive buttons beneath the mouse's seamless surface. That small dot in the middle? A Scroll Ball that provides 360 degrees of scrolling movement.

**HERE IT
COMES TO
SAVE THE
DAY**

It may not look like a multibutton mouse, but we swear it is.

You can use the Scroll Ball to scroll up and down in a document, shift left and right in a timeline, or pan in any direction in Photoshop. The Mighty Mouse also comes with a pair of programmable side buttons.

One glaring omission: Bluetooth capability. Currently, only a USB version is available. Look for a full review next month.

—Michelle Victoria

NEW STUFF

► DUAL DOCK

iDuo

\$59.95

www.atechflash.com

Available: Now

This iPod Dock from Atech Flash

Technology pulls

double duty as a flash-media reader.

It's compatible with 10 different types of flash media: CompactFlash Type I and II, Microdrive, MultiMediaCard, xD, SmartMedia, Memory Stick, MagicGate Memory Stick, Memory Stick Pro, and Secure Digital.



It's a 'Pod dock! It's a card reader! Wow!



WindowShade X fills in the features missing from Exposé.

► WINDOW DRESSING

WindowShade X 4.0

\$10

www.unsanity.com

Available: Now

The latest update to Unsanity's window-organizing utility offers even more ways to keep track of your Mac's windows. You can now assign a hot key to any WindowShade action;



WindowShade X 4.0 also adds support for Spotlight's search-results windows.

Chagall, dogs playing poker, family pics—whatever suits you.

► FRAMED!

PhotoVu PV1945

\$999

www.photovu.com

Available: Now

This 19-inch digital-picture frame uses a wireless connection to display images, slide shows, and even iPhoto albums from your Mac. You control the PV1945 through a Web browser, and the frame can be customized to match the decor of your room.



DROOLWORTHY

Sexy Stuff We Can't Wait to Get Our Mitts On

Minimalist Storage →

Imation's **USB Micro Hard Drive** (\$159 for 2GB, \$189 for 4GB, www.imation.com) uses a Toshiba 0.85-inch hard drive, which currently holds the Guinness World Record for the world's smallest hard drive. The Micro Hard Drive itself measures 1.61 by 0.66 by 3.3 inches and comes with a USB 2.0 connector.



'Pod Your Ride ↓

Harman Kardon's **Drive + Play** (\$199.95, www.harmankardon.com) is an iPod docking system for your car. The mushroom-shaped controller lets you command your 'Pod, while the 4-by-2.5-inch LCD lets you see what tunes you're selecting.



IMAGE COURTESY OF HARMAN KARDON

IT'S THE END OF AN ERA



Ah, Myst, we knew ye well.

Cyan Worlds is closing the book on its epic adventure saga with **Myst V: End of Ages**. Picking up years after *Myst IV: Revelation*, *End of Ages* reunites you with Yeesha (daughter of Atrus, one of the series' main characters) and introduces a new character, Esher, an elder of the ancient D'ni people. *Myst V* will be the first game in the series to be fully 3D, giving you full free-roaming, first-person-shooter-style control mixed with traditional point-and-click interaction. You'll no longer see other characters in live-video cut scenes; instead, the characters will be rendered in 3D, and you'll interact with them within the game itself. The camera and journal system will make a return, but your new best friend will be a small drawing tablet—using the mouse, you'll draw symbols that you see in the game on the tablet to communicate with creatures. Draw the symbol for water, for example, and they'll fetch you some water.—*Matt Osborn*

Myst V: End of Ages

Price	TBD
Available	September
Cyan Worlds	
www.cyan.com	



He was such a mild-mannered lad.

I'M THE GUY WITH THE SWORD

► *Fable* isn't just about hacking up monsters—it's also about growing up and growing old. In the magical world of Albion, everything you do has an effect on your appearance, your skills, and how people in the world react to you. Will you follow the path of a warrior and earn the people's respect? Will you traverse the dark alleys of the thief and strike fear in their hearts? Or are you a goody-two-shoes wizard who just wants to help? You can act like a chicken to make people laugh, or roar at them to make them cower. **Fable: The Lost Chapters** is one-third larger than last year's Xbox version, and it adds extra quests, more-detailed graphics and character expressions, hats, and the ability to import your own tattoo designs.—*MO*

Fable: The Lost Chapters

Price	TBD
Available	TBD
Feral Interactive	
www.feralinteractive.com	

GOOD TIMES IN THE JUNGLE VINES

► Unlike other Tycoon-esque games, you don't build a park or railroad to rake in the dough in **Wildlife Tycoon: Venture Africa**; instead, you try to build a thriving ecosystem in the Serengeti. Dr. William Willoughby and Miss Julia Carrilou guide you (in rhymed verse) through the game from their hot-air balloon. When you complete challenges, you earn Combo Jewels that

you can use to create rain or quicken plant growth. And when your ecosystem needs a little divine intervention, you can take direct control of your animals—just jump into the body of a roaming wildebeest, for example, and wander into a pack of hungry lions for instant population control.—*MO*

Wildlife Tycoon: Venture Africa

Price	\$20
Available	November
Pocketwatch Games	
www.wildlifetycoon.com	



The sweet voice of Elton John whispers in the wind.



Hey, can I get a ride to Anaheim?

WARCRAFT FEST

► Calling all Diablo, Warcraft, Starcraft, and World of Warcraft freaks: Blizzard is throwing a convention just for you! It's called **BlizzCon** (www.blizzcon.com), and it's going to be held on October 28 and 29 in Anaheim, California. Attendees will be able to meet the World of Warcraft developers, try out Blizzard's newest title, Starcraft: Ghost (not yet announced for the Mac), compete in tournaments, buy stuff, and more. You might even meet some of the real faces behind the characters on your World of Warcraft server. Only 4,400 tickets are available, and admission costs \$125—that's U.S. dollars, not Azerothian gold.—*MO*



Sunday school was never like this.

DOOM 3 MODS

► When Aspyr updated **Doom 3** to version 1.3, it improved compatibility with game mods. If you're not interested in hunting for them yourself, Macologist (www.macologist.org) has compiled some of the best mods and maps available in the **Doom 3 Map Collection** and the **Doom 3 Mod Collection**. We've even included a couple samples on this month's Disc.—*MO*



Church of Ruins, Boneyard's Downward Spiral, Doom3

INTEL 102

In "Intel 101" (Sep/05, p32), we gave you the lowdown on some of the jargon you'll hear from Apple as it moves into the Intel era—but you didn't think that was the end of the Intel technobabble, did you? Recently, Mac-rumor Web sites and the mainstream media have been abuzz about a video iPod (shouldn't that be iPod video?), so you may have heard talk of XScale, another Intel thingamabobber that does some really geeky stuff. Here's what it's all about.

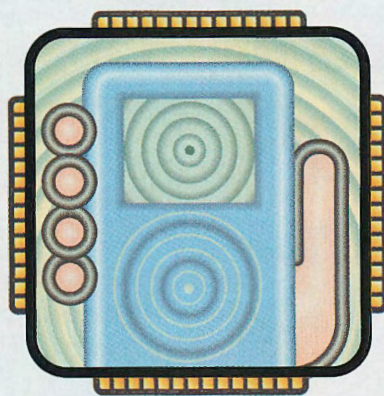


ILLUSTRATION BY JAMES E. KRAUSS

XSCALE

What it is: A mobile processor used in PDAs, portable media players, and smartphones.

What the Apple equivalent is: Apple actually doesn't use PowerPC chips in its iPods (that would be one hot lil' 'Pod); they use PortalPlayer ARM processors. (Bonus trivia to stump your friends: The iPod shuffle uses SigmaTel's D-Major STMP 3550.)

Why you should care: Speculation is that if Apple does indeed release an iPod video, there could be an XScale processor at its heart. We already know that an XScale can handle video: It's used in Creative's Zen Portable Media Center and iriver's PMC-100 series of multimedia players. (Both are Windows-only devices that can display photos and play video and music.) So it seems logical that XScale could find its way into new 'Pods from an Intel-ified Apple. But keep in mind that this is purely speculation—it's entirely possible that PortalPlayer or some other semiconductor company could provide Apple with a processor that can keep its cool while providing enough oomph to play your vacation videos.—*Roman Loyola*

Bug of the Month



DISAPPEARING EXTERNAL DISK

Ever find that one of your external hard drives has spontaneously unmounted? Here are a few things you can do to solve this problem.

NEW FIRMWARE Try updating your external hard drive's firmware, which is available from your drive manufacturer's Web site—or just use VersionTracker's (www.versiontracker.com) search function to find it. Be sure to back up your data before applying the update, and carefully follow the manufacturer's instructions.

OUT OF SIGHT If you're using an iSight camera while you're using a FireWire drive, the camera may be interfering with the drive's ability to stay mounted. Try temporarily disconnecting your iSight and moving it to a separate FireWire port. If you have multiple FireWire devices, try using a FireWire hub, such as Belkin's FireWire 6-Port Hub (\$59.99, www.belkin.com) or Kensington's six-port PocketHub FireWire (\$49.99, www.kensington.com).

POWER PROBLEM A faulty power adapter could be causing your drive to unmount. Your drive may not be getting enough juice to stay on, causing the drive to turn off and thereby unmounting it from your Mac. Alternately, the power adapter may not be providing a steady amount of power, causing your drive to turn on and off. Try replacing the adapter. If you can't get a replacement adapter from the hard-drive manufacturer, try your local electronics store. Just make sure the adapter you choose has the same connector and input/output voltage. You can find the input/output voltage on the adapter itself.

What's New

>>>>>>

iPOD APPS & ACCESSORIES



Your pocket yoga instructor. Mat not included.



- **Belkin's TuneTalk for iPod** (\$29.99, www.belkin.com) is an omnidirectional mic for recording directly into your iPod.
 - **Clickwheel 1.1.3** (\$11.95, www.clickwheel.net) lets you download digital comics and view them on your iPod. It also supports RSS to help you find comics.
 - **Newer Technology's 900mAh iPod Replacement Battery** (\$29.99, www.newertech.com) can be used with the iPod photo and fourth-generation 40GB iPods. It comes with tools and installation instructions.
 - **PumpPod** (\$19 to \$49, www.pumppod.com) is a personal-training app for the iPod photo. It shows you how to properly perform exercises through series of pictures displayed on your iPod.
- Outfitters' TransPod for** \$9.99, www.dlodirect.com transmits what's playing on your car's 12-volt FM radio frequency (107.9MHz).
- Reelclip** (\$9.95, www.reelclip.com) is a reel-shaped portable video winder that clips to your belt.
- iTunes Wireless** (\$49.99, www.targus.com) is a wireless remote control with a rechargeable battery.
- LongBook** (\$329.99, www.longbook.com) is a portable AM and FM radio with an iPod or iPod mini. It also has a remote control.
- SanDisk's naviPro eX** (\$49.95, www.sandisk.com) is a wireless navigation built-in iPod accessory. It also a version for the iPhone.
- Michelle Victoria*

SHAREWARE PICK OF THE MONTH

PatioTunes www.mindola.com \$15

You've got your Mac hooked up to your block-rockin' home speakers, and iTunes is running as a jukebox—now wouldn't it be cool if you could remotely control iTunes from another computer on your home network? PatioTunes lets you do just that, from any browser on any computer—even

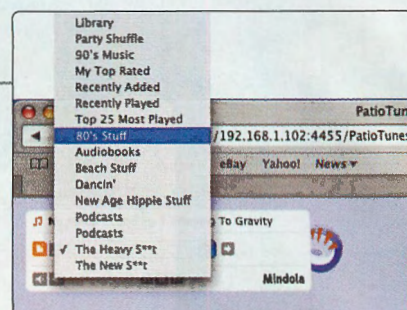
one running Windows.
—Andrew Tokuda



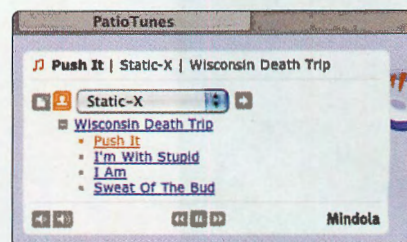
1 Launch PatioTunes on your iTunes-running "jukebox" Mac. A window pops up with a URL. Write it down.



2 Open a Web browser on your "remote control" Mac (or any other computer on your network—PCs included) and go to the URL from step 1. A page opens displaying the PatioTunes control panel.



3 Now you can choose playlists from the pop-up menu.



4 By clicking on the Artist icon to the left of the pop-up menu, you can display albums and tracks from a particular artist. You can even control playback and volume from here.

APPLE DEFINES .MAC LIMITS

The days of nebulous .Mac bandwidth restrictions are history. Apple has imposed a 3GB-per-month data-transfer limit on the standard \$99.95-per-year .Mac account, which includes 250MB of storage (divvied up among iDisk, .Mac Mail, and the Web-page hosting service HomePage). If you buy Apple's 1GB storage upgrade for \$49.95 per year, your bandwidth limit increases to 10GB per month.

—Roman Loyola



The .Mac madness now knows bounds.

IPOD CASE OF THE MONTH

Speck Products' iGuy (\$34.95, www.speckproducts.com) transforms your trusty fourth-generation iPod into a toy that'll bring you back to your childhood, when bendable figures made of rubber and wire provided hours and hours of fun. In the seated position, iGuy exposes your 'Pod's port so you can Dock it with your Mac. The iGuy also fits an iPod photo; there's even a version available for the iPod mini.—Michelle Victoria



Move over,
Gumby and Pokey.

SUBMIT YOUR CASE Whether your iPod case is a custom-made one-off or mass produced, you can submit it for Case-of-the-Month consideration—just send it to iPod Case of the Month, MacAddict, 150 North Hill Dr., Ste. 40, Brisbane, CA 94005. Please note that we cannot return cases.

Turn your Mac into a lean, mean, screamin' machine.

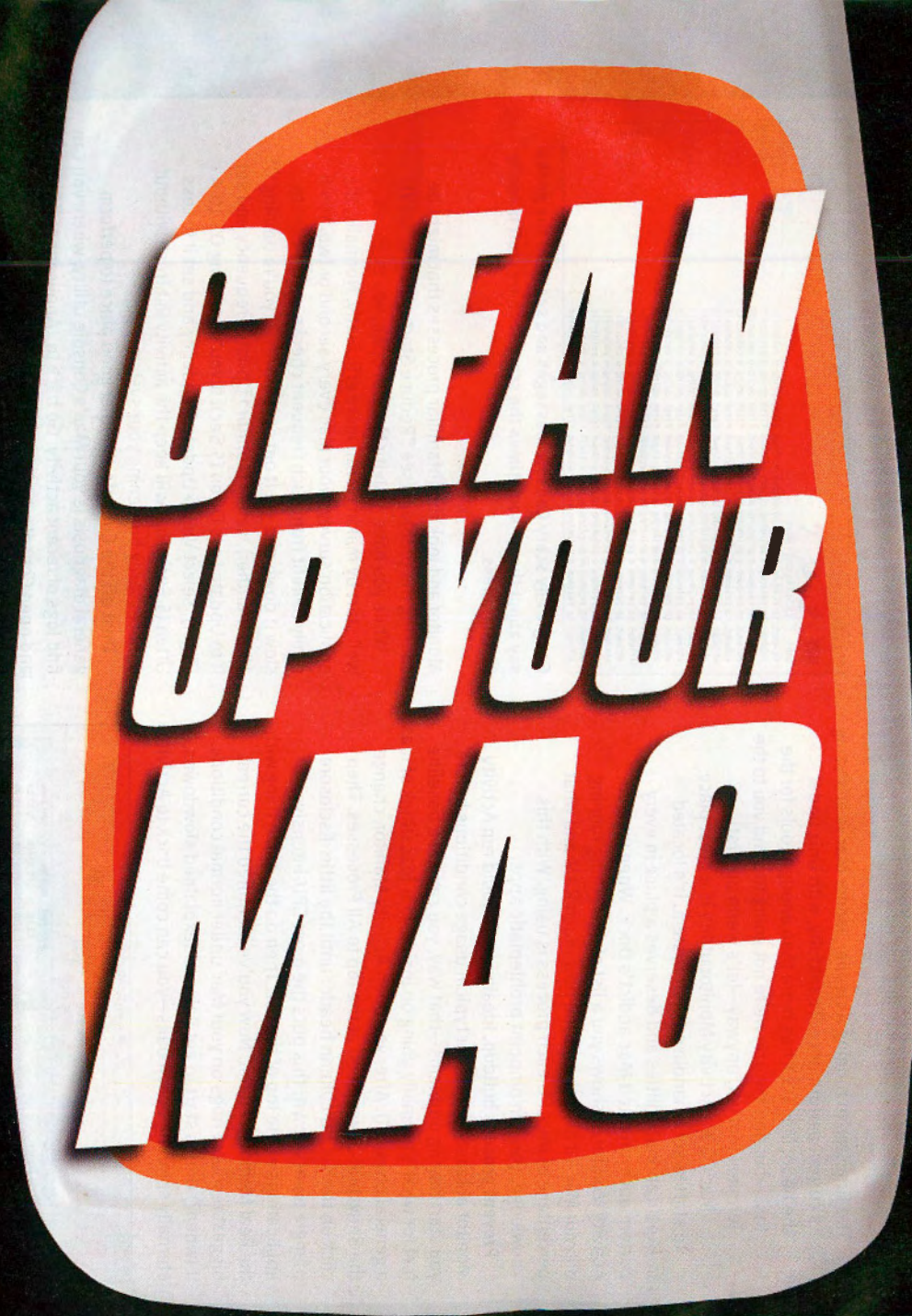
By Dave Hamilton

It was just five short years ago that an entry-level iMac came with only 64MB of RAM and a 7GB hard drive. Even running the relatively svelte OS 9, you had to keep an eye on memory use if you had more than one app open at a time—there's no room in 64MB for superfluous activities—and you quickly found out that seven gigs wasn't as huge as it sounded at first.



Today, though, the same money will get you an eMac with four times the RAM and a hard disk 11 times the size. With that much machine, there's not nearly as much incentive to keep excess junk—apps with bloated code, unused files, cluttered caches—off your Mac. And most of the software you run on your Mac (yes, including good ol' OS X) includes legacy stuff that's older—and less useful—than some Mac users. Apple has made it possible for all of us to lose sight of such old-school practices as keeping tabs on startup items and deleting outdated files. But keeping a clean machine is still a good idea—RAM still gets filled up, and even 80GB can quickly get eaten up, MP3 by MP3, video by video.

While it may not be possible to get rid of every piece of clutter gumming up your Mac's works, there are plenty of tweaks you can perform to make both OS X and some of your favorite apps run more efficiently. "Running efficiently" may sound like an outdated concept in a world dominated by powerhouse Macs, but it's still a goal well worth striving for. Trust us—you'll notice the difference.



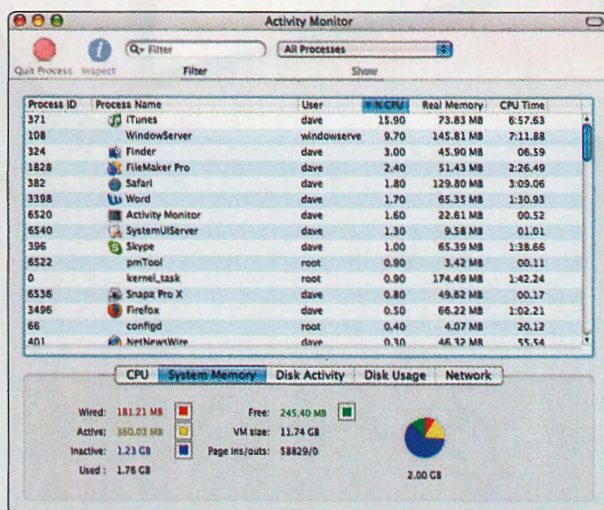


It's Ten O'Clock: Do You Know What Your Mac Is Doing?

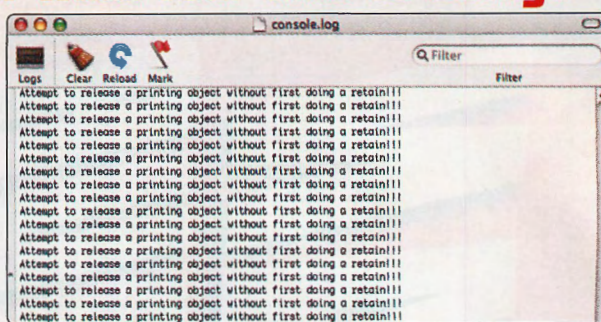
The first step to running a cleaner, leaner Mac is analyzing its current performance. Thankfully, with Unix under the hood, Mac OS X has more than enough tools for the task—but don't worry, we're not going to send you to the Terminal (not yet, anyway—let's warm up first).

Mac OS X's Activity Monitor utility is a great place to start to get a handle on your system. It's located in /Applications/Utilities and deserves a place in every performance-oriented Mac addict's Dock. When you run Activity Monitor, it shows you a list of everything running on your Mac—it also shows you how much RAM and what percentage of the CPU each process is using. With this knowledge, you can pinpoint problematic apps.

Prevent process buildup. Ideally, you should run Activity Monitor at least once under typical usage conditions before you start having problems—that way, you can get a baseline feel for what's normally going on inside your Mac (think of it as a general physical). After you open Activity Monitor, change the Show pull-down menu at the top to All Processes. Then click on the % CPU column header until the little disclosure triangle points down; this puts the most CPU-intensive applications at the top of the list. Then do the same thing with the Real Memory column. Now you've identified the current biggest resource hogs on your Mac under normal conditions. If (when?) things start to get flaky—unexplained slowdowns, eternally spinning beach balls—you can come back to Activity



What's goin' on, Mac? The Activity Monitor has the answer.



Google any scary Console messages and see what the geeks say about them—sometimes the scary-looking stuff is really just harmless.

Monitor and look for unfamiliar processes that might be causing the problem (see "Reduce Startup Items," p19).

While you have Activity Monitor open, you might as well start by making it run more efficiently. Normally, the application surveys your Mac every second or two. You'll rarely benefit from such frequent checks, so it's best to slow it down and get it out of your way. If you're running OS 10.3 (Panther), select Monitor > Update Frequency and set it to Update Less Often (5 Sec). If you're running OS 10.4 (Tiger), select View > Update Frequency and set it to Less Often (5 Sec). That will keep the activity list fresh without unnecessarily burdening your system.

Dust off the Console. Another good place to perform general diagnosis is your Mac's Console utility, where you can find logs of recent activity. Go back to /Applications/Utilities, and open Console. In Console, select File > Open Console Log from the top menu bar, then select File > Open System Log. You'll see lots of text—some of it unintelligible gobbledygook, but most of it written in language you can easily understand. Everything may look benign, or you may see things that look like screaming, triple-exclamation-mark problems. If your Mac is working fine, these scary messages probably don't mean much. But if you're having a problem, peruse the recent entries (which are at the bottom), and if you see something that looks suspicious, copy it and paste it into Safari's Google search. The first few results should give you an indication as to whether you're seeing something truly bad.

Now that you've got a general overview of what your Mac's doing under normal circumstances, use the following procedures to keep it running smooth and efficiently.



Schedule Some Downtime

If your Mac seems to slow down at seemingly regular intervals, only to speed back up again after a period of time, then one of your regularly scheduled activities might be causing a significant load in the background. If you're having intermittent slow-down problems, keep Activity Monitor open, and when your Mac slows

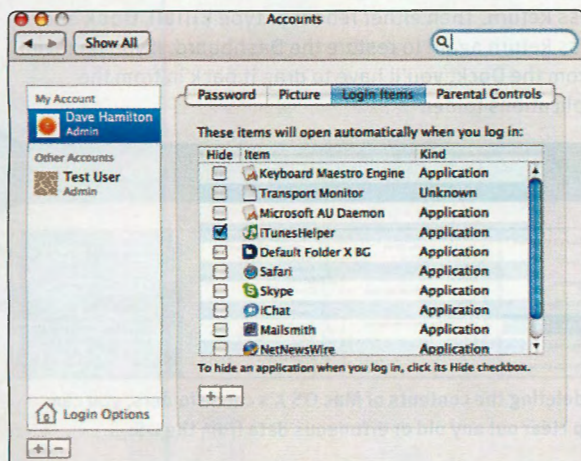
down, examine the list for automated processes such as email checking, podcast-subscription updates, RSS-feed updates, and scheduled backups. Switch any you find to manual operation (or change the frequency or timing of the activity in the app's preferences), and you'll be able to save the slowdowns for more-convenient times.



Reduce Startup Items

Over the months and years, you've likely installed some stuff on your Mac that you simply don't need anymore, such as drivers for old third-party mice, outdated scanners, obscure media viewers you needed once, applications you don't use, and so on. Most of these forgotten items lie dormant until you launch them, so they don't really affect your performance—they just take up hard-drive space. Some of this stuff, however, installs little startup items that fire up every time you boot your Mac—whether you need them or not. To determine if you have any of these ancient relics running needlessly, next time you restart your Mac, launch Activity Monitor before you launch any other applications. Scroll through the list and see if there's anything there that you recognize as something you don't need to have running from startup—an old scanner utility, for example. If it's on the list, it's taking up RAM and CPU time, and—if you don't need it—it's worth getting rid of. It's generally best to stay away from processes whose User is Root, though, unless you're sure they don't belong to OS X itself. For more information, you can find a short list of background processes at www.westwind.com/reference/OS-X/background-processes.html.

Quit right. You can quit a process from within Activity Monitor, but that can cause you to lose data, and the process will be back after the next restart anyway. Instead, it's best to quit the application normally and then either uninstall the offending app or—if you can't figure out where exactly it lives—at least remove it from the Startup Items list. Launch System Preferences, go to the Accounts pane, select your account from the left-hand list, and click the Login Items tab (if you're using Tiger) or the Startup Items tab (if you're using Panther). Find the process you want to remove, highlight it, and click the minus sign (in Tiger) or uncheck the box (in Panther) to remove it from your startup. Note that this doesn't actually delete the application—it simply keeps it from automatically launching at startup.

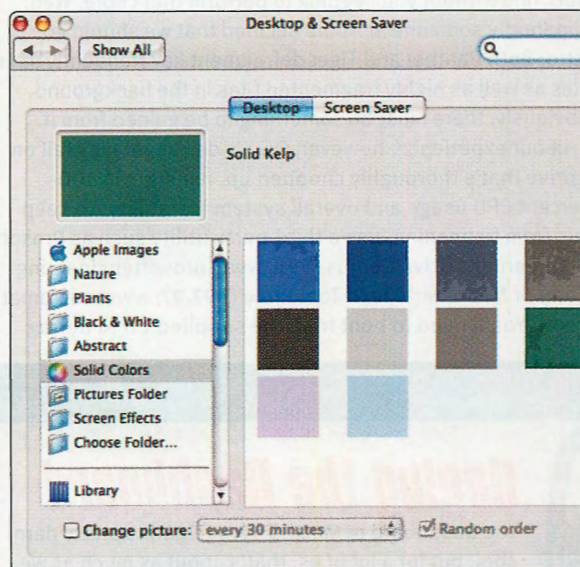


Remove any unneeded login items to make your Mac both start up and run faster.



Smooth Out the Desktop

While background pictures can look pretty on your desktop, believe it or not, they've been known to slow down a system or two. How come? In order to display that oh-so-sexy photo of Fabio on your desktop, your Mac has to load it into RAM and constantly redraw it around windows as you move them and close them. This can (and will) slow things down, especially if you're starved for RAM anyway. We've gotten good results by removing the desktop picture and replacing it with a solid color. Boring? Yes! Slow? Not a chance! Plus, your friends might actually get envious of your minimalist Solid Kelp-colored background, right?



By setting your desktop to a boring, solid color, you can help tweak your Mac to speed-demon efficiency.



Reboot Occasionally

Yes, we know what they say: "Mac OS X runs on Unix and Unix never needs to be rebooted." Well, that maxim has an oft-overlooked coda; it's supposed to finish "because Unix is typically used on a server that runs one set of applications forever." Your Mac, on the other hand, probably isn't set up that way—you probably treat it just like you would any other desktop computer (how dare you!), opening and closing apps left and right—right? Assuming that's the case, then hear this: Launching and quitting different apps all the time will eventually begin to bloat your system, despite its protected and virtual memory. You could quit all your apps and let your Mac sit for a few hours to give it time to reorganize its resources on its own, but frankly, we say it's quicker to just use that Restart command in your Apple menu. We'll let you decide which course of action is best for yourself.



Defragment Your Disks

As you save files to your hard disk, it eventually gets full to the point where there won't be enough space to store all the bits and bytes of a document or application together in one place. That's OK—without any help from you, your Mac will spread the file around the disk space that is available, breaking it up into as many fragments as necessary. Way back when, the general consensus was that this was a Bad Thing, and we were always told to defragment our hard drives (that is, collect all those fragments and put them back together). In the early versions of OS X, conventional wisdom was that you really didn't need to defragment your disks—OS X's Unix underpinnings would work fine without you needing to perform that chore. Well, apparently someone at Apple decided that we should go retro: Both Panther and Tiger defragment key frequently used files as well as highly fragmented files in the background. Obviously, there must be something to be gained from it.

In our experience, however, OS X's defragmenter may fail on a drive that's thoroughly chopped up, resulting in 100-percent CPU usage and overall system instability. To keep this from happening, use a third-party utility such as Prosoft Engineering's Drive Genius (\$99, www.prosoftengineering.com) or Micromat's Tech Tool Pro 4 (\$97.97, www.micromat.com). You'll need to boot from the supplied CD to defrag



OS X's built-in drive utility is a bit bunk. Use a third-party application such as Prosoft Engineering's Drive Genius to defragment your hard disks and keep your Mac running smooth.

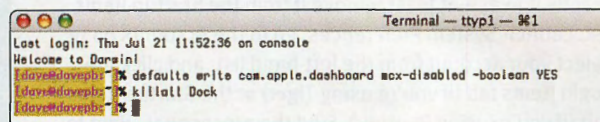
your startup disks, but it's well worth it. Twice a year should be fine—but back up your files first.



Unplug the Dashboard

The Dashboard in Mac OS 10.4 (Tiger) is pretty darn cool, but for a lot of us, that's about as much as we can say right now. Our guess is that this is yet another technology from Apple that will mature with age and become something we can't live without. Until then, you can save quite a bit of RAM by disabling it. To do this, you'll have to open up the Terminal (/Applications/Utilities/Terminal) and type `defaults write com.apple.dashboard mcx-disabled -boolean YES` and press Return. Then type `killall Dock` and press Return again.

As of OS 10.4.2, the Dashboard icon remains in the Dock and appears active even after you disable it—it's not *really* there, though, and if you drag it out of the Dock, it just poofs away.



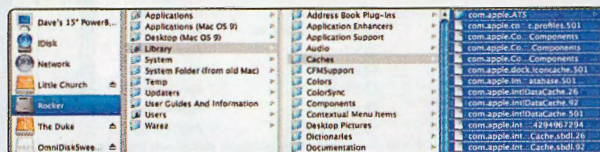
Use Tiger's Terminal to disable the Dashboard if you're not using it.

If you decide you want the Dashboard back at some point, go back to Terminal and type `defaults write com.apple.dashboard mcx-disabled -boolean NO` and press Return. Then either reboot or type `killall Dock` and press Return again to restore the Dashboard. If you removed it from the Dock, you'll have to drag it back in from the Applications folder.



Cache Out

Mac OS X attempts to make your Mac more efficient by saving (or caching) frequently used data to keep it readily available. This is a great idea, and generally caching works quite well. However, like anything, data in the caches can become stale after a while, causing the OS to stumble a bit, so clearing your caches out can be a good thing—as long as you're careful. The two main cache folders used by Mac OS X are /Library/Caches and /username/Library/



By deleting the contents of Mac OS X's cache folders, you can help clear out any old or erroneous data from the OS.

Caches. Delete the contents of these folders (but not the folders themselves!) and reboot to rebuild them with fresh new data.



Unmount the Unused

There are times when OS X decides it wants to look at all your drives—when you right-click on a file and choose Open With, for example—even though you know exactly where the file or application you want is located. If you have multiple drives connected to your Mac, they can slow this process way down (especially if those disks have been spun down by Energy Saver). If you eject the extra disks and only mount them when you need them, you can keep your Mac from looking where you don't need it to and save a lot of seconds—and seconds add up.



OS X likes to look for files on all mounted disks. Eject any that you're not using to keep OS X focused on the task at hand.



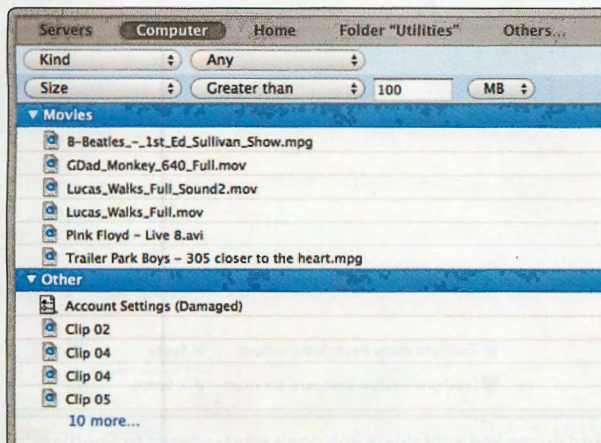
Free Space Is Bliss

If your hard drive gets close to full, OS X will have a hard time finding space to write new data; combine that with the added burden of managing files without much room to work with, and you could find yourself having a super-slow time. In order to make sure OS X has enough space for Virtual Memory and swap files, we recommend you keep at least 10 percent of your hard drive free, if possible (for example, if you have a 60GB drive, keep at least 6GB available).

The most obvious way to do this is to delete unused applications and files. Bear in mind that most data files don't take up much space, so clearing out last year's Word documents probably won't net you much. Today's major space hogs are usually MP3s, photos, videos, and outdated (or unused) applications. It's a good idea to do housecleaning in your Music, Movies, Pictures, and Applications folders on a regular basis.

To find the real space hogs quickly, open up a Finder window, choose Find from the File menu, and search for any files whose Size is Greater Than 100MB. It's easy to scroll through the resulting list and decide what you do and don't need without getting lost in a sea of harmless tiny files.

There are other folders whose contents might be large



Use the Finder's search command to locate large files on your drive, then decide if you need to keep them or not.

enough and unnecessary enough to warrant deletion (with caution!). Check out the following:

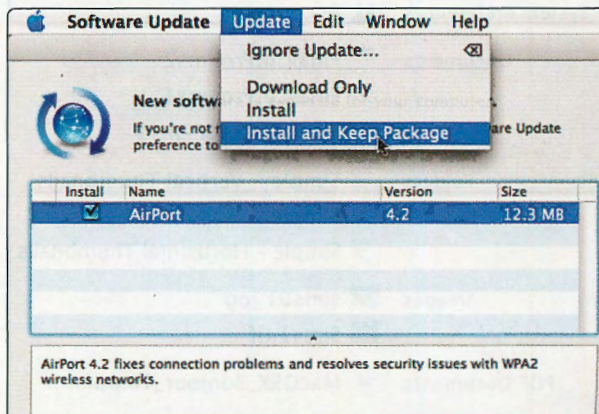
■ **/Library/Application Support** Look in here for folders and files belonging to unused applications. As long as you know what app they belong to—and that you'll never use those apps again—feel free to delete them.

■ **/Library/Printers** Here you'll find drivers for tons of assorted printers, most of which you'll never see. Feel free to delete with care.

■ **/Library/Documentation** Help files are stored here. If you know everything there is to know, toss 'em. (Then again, if you know everything, why are you reading this?)

■ **/Library/StartupItems** Contained herein are apps and utilities that launch when your Mac boots. If you see something here that you're certain you don't need, axe it—but again, be certain!

■ **/Library/Packages** If System Preferences > Software Update is set to download updates automatically or you use Update > Install And Keep Package when you run Software Update, this is where you'll find the downloads. Once you've installed your updates and are sure you won't need them again, go ahead and clear them out.



If you choose Install And Keep Package from Software Update's Update menu, you'll find the downloaded package in /Library/Packages even after it's been installed. Destroy it!



Bus Management

No, we're not talking about the first week of school when you can't find your child. Your Mac sports several different types of busses (input/output chains): FireWire, USB, ATA, and Serial ATA are just a few examples. Each bus has a maximum throughput—that is, the rate at which it can transfer data—and by cleverly managing devices and the busses to which they connect, you can actually gain quite a performance boost with certain operations.

Say, for example, that you've connected a FireWire drive to your Mac for the sole purpose of storing your massive music library. If you hook up your iPod using the same FireWire bus as the external drive, the devices can't just send the data

directly from one to the other: Your Mac has to read the music data from the hard drive and then write it out to the iPod. Doing this over a single bus limits the amount of data that can be transferred at a given time. A smarter solution? Connect your iPod to your Mac's USB 2.0 port and let your Mac read over FireWire and write over USB 2.0. That way you won't be doubling up on the same bus.

You can use this trick with many different devices. USB still cameras and FireWire-based video cameras take up bus bandwidth when transferring their contents back and forth to and from your Mac. By having that data copied to a device on a different bus, you keep things running as efficiently as possible.

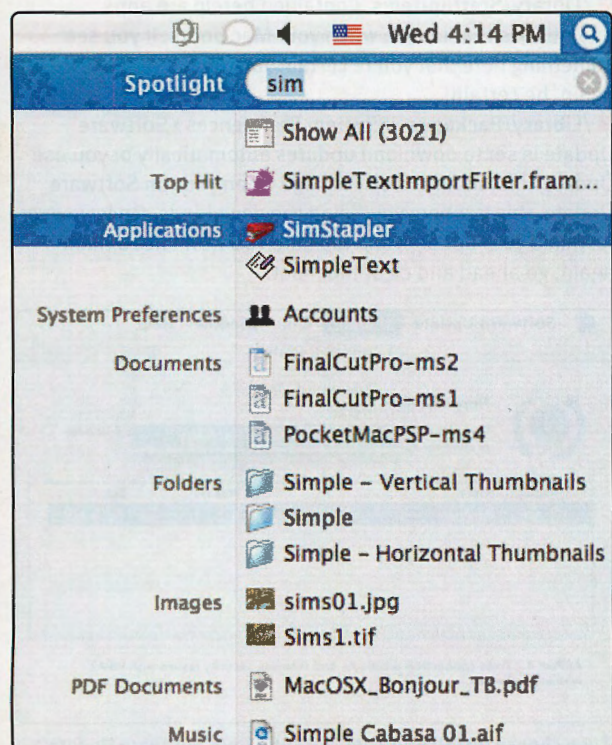


Private Spotlight

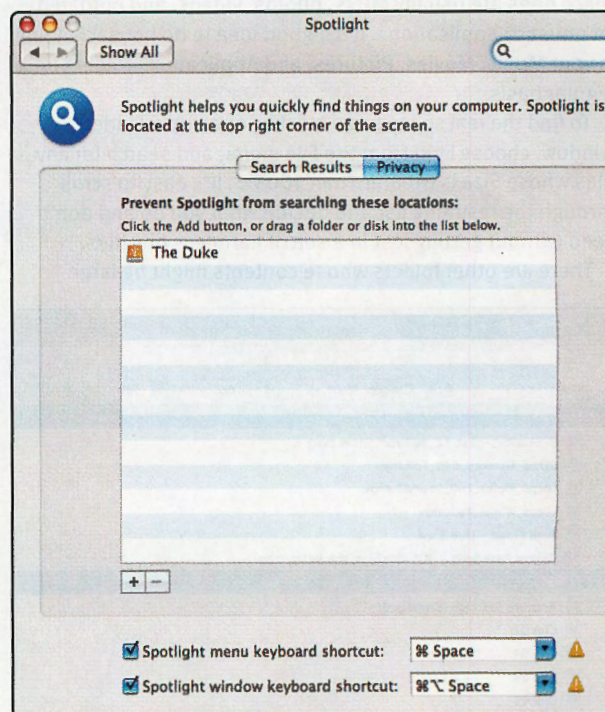
Spotlight can be a fantastic timesaver, and it's one of Tiger's most touted (and least understood) features. Sure, searching for files is great, but Spotlight can do more than that. For example, you can use Spotlight to launch applications without taking your hands off the keyboard. Just press Command-spacebar (or whatever you've configured as the Spotlight Menu keyboard shortcut) and start typing the name of the app you want to launch. When it shows up in the list (almost immediately, in other words), navigate to it using the arrow keys, press Enter, and

you're good to go. This can be especially helpful if you've got applications buried deep within your Applications folder.

Spotlight can really slow your system down, though, when it does its regular indexing of your drives and files. If you have external drives connected to your Mac that you know you'll never search, you can use Spotlight's Privacy controls to keep Spotlight from wasting time on them. Simply go to the Spotlight pane in System Preferences, click the Privacy tab, and drag in the drives and folders you don't wish Spotlight to index.



With fleet fingertips, you can use Spotlight to launch applications without ever leaving the keyboard.



Add drives and subfolders you don't want indexed to Spotlight's Privacy tab, and your Mac won't waste its (and your) time indexing them.



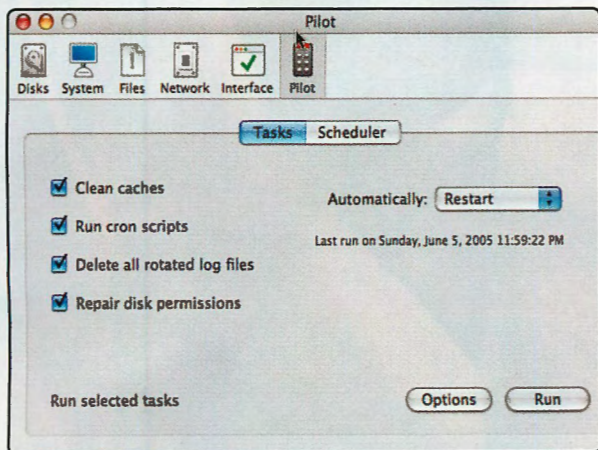
Make Life Easier

Sure, you can take care of a lot of the tasks we've suggested manually or from the Terminal, but Mac fix-it gurus have written useful applications to do most of those chores for you. Consider adding the following utilities to your cleaning kit:

■ **Cocktail** We've said it before, and we'll say it again:

Cocktail (\$14.95, www.macosexcocktail.com) is simply one of the most useful maintenance utilities ever created for OS X. It'll clean your caches, run maintenance scripts, rebuild your permissions, update all your system databases, and reboot your Mac, leaving it ready and waiting for your next command. Just go get it.

■ **OmniDiskSweeper** OmniDiskSweeper (\$14.92, www.omnigroup.com) does something very simple but extremely useful: It scours your drive and sorts everything by size. Once it's done (it takes between 5 and 30 minutes, depending on the size of your drive), you can easily traipse through your directory structure and see exactly what's

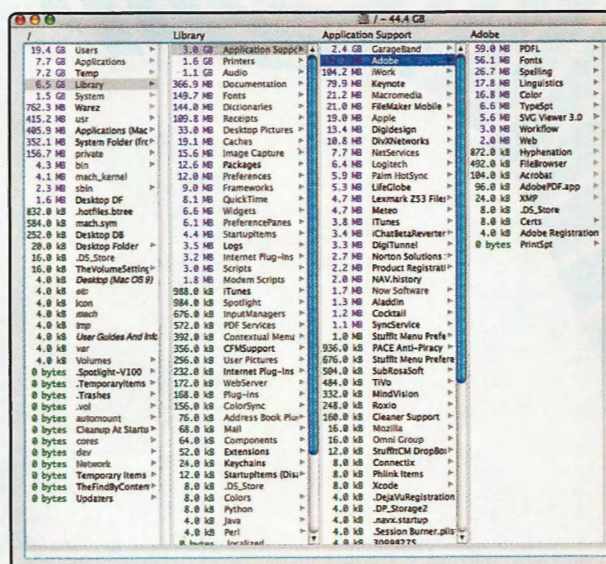


Cocktail's Pilot lets you automate a series of maintenance tasks for your Mac. Click one button, and it handles all the rest.

using up all your valuable disk space.

■ **MenuMeters** This utility (free, www.ragingmenace.com) lets you put miniature reports and graphs in your Mac's menu bar, showing you CPU usage, RAM usage, disk activity, and network traffic. Used properly (that is, without obsession), it can really help you keep an eye on what your Mac is doing.

■ **Tidy Up** Flexible and fast, Tidy Up (\$30, www.hyperbolicsoftware.com) lets you search for files that meet a wide range of criteria or that share features in common. It also gives you several choices of what to do with them. For example: Look through your Music folder for all files with the same name, extension, and running time, and delete all copies but one.



Use OmniDiskSweeper to take the guesswork out of finding space hogs on your drive.



DON'T TOUCH

There are some places that no Mac addict was meant to go. So other than where we've specifically told you it's OK to mess with stuff (see "Free Space Is Bliss," p21), leave the Library and System folders alone (that includes your `/username/Library` folder, as well). Especially don't go near the `/Library/Receipts` folder, even though it looks tempting. The files in there look like installer packages—and are identified by OS X as such—but they really contain vital information about the software you've installed. Your Mac relies on this data to know what future updates it needs.

If you ever boot into Classic, don't remove anything from the root level of your hard drive if you don't know what it is. Files such as `mach`, `mach.sym`, `var`, `tmp`, etc, `usr`, and more are required by OS X even if you're not working in OS X. Without them, OS X will not boot again.

The bottom line: If you don't know what something is—and you can't Google enough to calm your beating heart—don't touch it.



Dave Hamilton polishes his G5 every day and keeps it on a strict regimen of daily exercise and Mega Mac multivitamins.



HELP ME

FRAZZLED

ARE FONT PROBLEMS DRIVING YOU CRAZY? IF SO, HERE'S HOW TO SALVAGE YOUR SANITY.

W

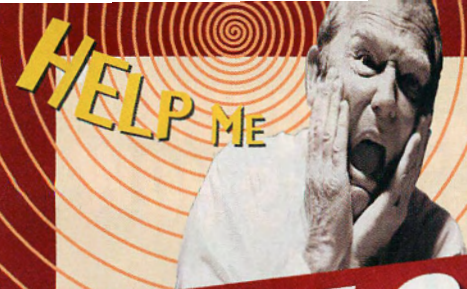
e're betting that back in the days of System 6—back when we used Font/DA Mover to wrestle fonts into and out of the System file—you wouldn't have believed that one day we would look back on that time as the good ol' days of font management. But the fact is, while there's a lot to like about Mac OS X, it's not exactly user-friendly when it comes to handling fonts—and it doesn't help that OS X can access fonts from six different places (see "Where the #\$*! Are My Fonts?", p27). The result is that on many a Mac, font files are in greater disarray than a teenager's bedroom, and the thought of cleaning them up is about as appealing as, well ... cleaning a teenager's bedroom.

But messy font libraries can be a continual source of angst, with effects ranging from system and application crashes to reflowing text and Courier substitution when printing. While crashing is less of a problem with OS X than it was with previous systems, fonts can still become corrupted and conflict with one another. With fonts spread out in several different places, it can be next to impossible to determine exactly which version of a font is active—much less which one is the source of your problem. Meanwhile, as applications add fonts and you acquire your own, font menus get longer and longer and font names become more esoteric.

So what do you do? Gnash your teeth and bemoan your fate? Or grab the bull by the horns and take control of your fonts? Why, the latter, of course. The more you know about how Mac OS X handles fonts and the options you have for managing them, the more productive you'll be. Read on to find out where your fonts are stored, how they're loaded, and what kinds of fonts you can use. We'll also point you to resources for further reading and introduce you to several font-management utilities that can help you in your quest to conquer your fonts.

BY FONTS

BY JOHN CRUISE AND KELLY KORDES ANTON



GET ORGANIZED

Even without a font manager, the first step to ending font frustration is to organize your fonts logically (which, in turn, will also make it easier to use any font utility you end up trying). Begin by creating a single folder (called something like All My Fonts) on your hard disk. Within this folder, create a set of subfolders for grouping your fonts. For example, you can organize fonts alphabetically into folders named A-F Fonts, G-L Fonts, and so on. Or you can group them by appearance, with folders called Serif Fonts, Script Fonts, and the like. Note that if you decide to use a font manager (see “Call In an Expert,” p28), not all of them maintain your folder structure, and those that do may require some planning.

Once you’ve set up your personal folder hierarchy, move all of your fonts—with the exceptions noted in the next paragraph—into the appropriate folder. (To find all of the places fonts might be hiding, see “Where the #\$*! Are My Fonts?,” p27). That way you can keep track of how many copies of each font you have (ideally, just one) and know where they are when you need them. To use a font, just move it into one of the appropriate folders listed in “Where the #\$*! Are My Fonts?” on page 27.

Your Mac requires certain fonts for normal system operation, and removing them can cause applications to behave

erratically. Make sure you leave a copy of the following fonts in /System/Library/Fonts: AquaKanaBold.otf, AquaKanaRegular.otf, Geneva.dfont, Keyboard.dfont, LastResort.dfont, Lucida Grande.dfont, and Monaco.dfont. If you use a non-Roman language as your system language, you also need to keep other fonts in their places: Hiragino Kaku Gothic Pro W3 and W6, Hiragino Mincho Pro, Osaka, and Osaka Mono for Japanese; LiHei Pro, Apple LiGothic Medium, and Hei for Traditional Chinese; STXiHei and STHeiti for Simplified Chinese; Apple Gothic Regular for Korean; and Geeza Pro and Geeza Pro Bold for Arabic. If you use Classic mode, don’t remove any of the following fonts from the Classic fonts folder (/System Folder/Fonts): Charcoal, Chicago, Geneva, and Monaco.

While we’re on the topic of required fonts, some OS X applications, including Mail, iCal, and TextEdit, require an active version of Helvetica and Helvetica Neue. Similarly, installing Adobe graphics applications—either the standalone versions or the complete Creative Suite—puts a folder named Reqr in the Adobe fonts folder (/Library/Application Support/Adobe/Fonts/Reqrd). If you move any of these fonts, keep copies in a folder that’s always available, or keep them permanently activated using a font manager.

FORMAT FREAK-OUT

Mac OS X support all major font formats, so chances are that most fonts you’ve used in the past (as well as any new ones) will work just fine. Here’s a quick rundown of the supported font formats:

POSTSCRIPT TYPE 1

This is the granddaddy of digital fonts and the format most commonly used by creative pros. Every PostScript font includes two files—a screen font and a printer font—and both files must be in the same folder for the font to work correctly. The printer font usually has no filename extension, but the screen font often has a .scr or .bmap extension.

TRUETYPE

A single TrueType font file (often identified by a .ttf extension) stores both the onscreen and printer versions of a font. TrueType fonts are supported by most printers and are common in home and office environments, though not widely used in professional publishing. TrueType fonts are available in Macintosh- and Windows-specific formats; Mac OS X supports both.

OPENTYPE

This is the newest kid on the block. Like TrueType fonts, OpenType fonts (identified by a .otf extension) are

contained in a single file, and they’re cross-platform compatible. Even better, they can include up to 65,000 characters, a significant advantage over 256-character PostScript fonts.

DFONT

OS X introduced Dfonts (Datafork TrueType fonts, often identified by a .dfont extension), a format used only by Apple and not recommended for professional publishing. Some Dfonts that come with OS X use the same name as existing PostScript fonts—for example, Courier, Futura, GillSans, Helvetica, Optima, and Times—and you should remove duplicates.

MULTIPLE MASTER

The multiple-master font format is a variation of the PostScript Type 1 format that can include multiple weights, widths, sizes, and styles. Adobe has discontinued the multiple-master font format (except in two instances for use with Acrobat), so these fonts’ days are numbered.

WHERE THE # \$ * ! ARE MY FONTS?

In the good old days, all fonts were stored in the same place. This led to huge System files and Fonts folders, but at least it was simple. Mac OS X lets you store fonts in any of several folders, but with this flexibility comes complexity. To add to the confusion, many commercial applications, including Microsoft Word and Adobe graphics apps, often install fonts of their own without your knowing. So take some time to learn where font files can be stored, because a font's location determines which users and applications can access it. Fonts can be in any of the six locations described below, depending on how they were installed. (If you have OS 10.2 or later, you can also store fonts in subfolders within any of the listed font folders.) When OS X wants to *activate*—a fancy term for “load” or “turn on”—a font, it starts looking in an application's Fonts folder and proceeds folder-by-folder down the list.

FONT LOCATION	PATH	ACCESSIBILITY
PROGRAM-SPECIFIC FONT FOLDERS	/Library/Application Support/application/Fonts or /Applications/application/Fonts	Fonts stored in these folders are available only to the applications (or suites of apps, in a case like the Adobe CS suite) they're stored with.
USER FONTS	/Users/username/Library/Fonts	Fonts in this folder are available only to the named user. Put your fonts here if you're the sole user of your Mac and you don't run Classic mode.
LOCAL FONTS	/Library/Fonts	Fonts in this folder are available to all users of your Mac; however, administrator access is required to change the contents. Put the fonts you want all users to share in this folder.
NETWORK FONTS	/Network/Library/Fonts	All fonts in a Network fonts folder are available to all users on the Mac's local network with proper sharing privileges.
SYSTEM FONTS	/System/Library/Fonts	Mac OS X uses the fonts in this folder for menus, dialogs, and icons. The fonts are available to all users and applications with the exception of Classic-mode apps.
CLASSIC FONTS	/System Folder/Fonts	Fonts stored in this folder are available to both Classic and Mac OS X apps, but Classic can use <i>only</i> the fonts in this folder.

FONT FACTS

For more information about how fonts work and how to manage them, check out some of the following resources:

FONT MANAGEMENT IN MAC OS X

(www.apple.com/pro/training/fonts)

This Apple Web site includes QuickTime movies, tips, and step-by-step instructions for working with fonts in Mac OS X, as well as detailed information about how to use Font Book.

USING AND MANAGING FONTS IN MAC OS X: A GUIDE FOR CREATIVE PROFESSIONALS

(www.apple.com/pro/archive/creative/fonts)

Download this PDF, which covers best practices for font management and includes several informative appendices.

MAC OS X: FONT LOCATIONS AND THEIR PURPOSES

(<http://docs.infor.apple.com/article.html?artnum=106417>)

This Apple Support document explains how to install fonts in Mac OS X, where fonts are stored, and how fonts are loaded.

FONTS IN MAC OS X

(http://download.info.apple.com/Apple_Support_Area/manuals/mac_os/Panther_Fonts_TB_10082003.pdf)

This PDF from the fine folks at Apple contains information about Font Book and other font-related system utilities, including the Font panel, the Character palette, and the Typography panel.

FONTS & FONT BOOK

(www.apple.com/support/tiger/fontbook)

Find links to basic Font Book documentation, top support articles for Font Book, and information about using fonts with Mac OS 10.4 (Tiger).

FONT MANAGEMENT IN MAC OS X: BEST PRACTICES GUIDE

(http://dl.extensis.com/downloads/SC/EN/P/Fonts_Best_Practices_in_OSX.pdf)

This PDF explains where OS X stores system fonts, how to clean up and organize your font library, and techniques to troubleshoot font problems.

FONT MANAGEMENT IN OS X FOR GRAPHIC ARTISTS

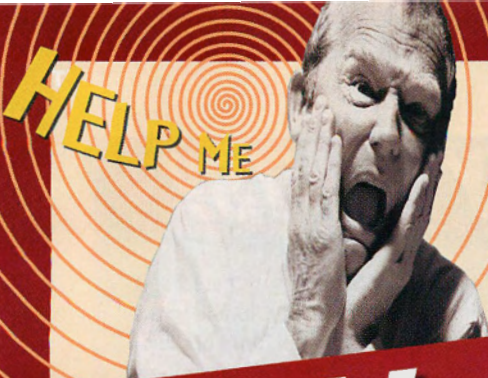
(http://ideastraining.com/PDFs/OSX_FontManagement.pdf)

If you need basic information about working with fonts in OS X, turn to this bare-bones PDF.

TROUBLESHOOT FONT PROBLEMS (MAC OS X)

(www.adobe.com/support/techdocs/327791.html)

This Adobe document contains information about installing, using, and resolving problems with fonts in Adobe applications.



CALL IN AN EXPERT

As you might guess, moving fonts in and out of the many different OS X Fonts folders is a difficult and inefficient way to deal with fonts. When you're working with fonts as files at the Finder level, it's easy to get confused about everything from what Frutiger looks like and whether you have the Frutiger-ExtraBlackCondensed font to why you have five Times folders and why some fonts won't show up in Classic applications. When you're tired of wrangling with puzzles such as these, you need a font manager—an application that shows you which fonts you have and what they look like, turns fonts on and off, and often lets you group fonts in various ways.

Depending on your needs, you can use the font manager that ships with OS X (Font Book) or purchase a third-party application. The font manager you choose depends largely

on how many fonts you're dealing with on a daily basis. If you've just got the 20 or so fonts that ship with OS X, then no problem—just keep them all active all the time. If you have the 500 or 800 font files a graphic designer typically has, you need help. And if you have the more than 10,000 font files a service bureau has (many of which are different versions of the same font), you need *serious* assistance.

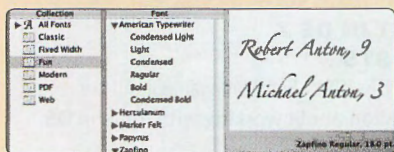
All the following font managers provide some capabilities for searching for specific fonts, activating and deactivating fonts, previewing fonts, and viewing a character map. The advanced font managers provide, among other features, both system-level and application-specific automatic font activation. This means that, for example, when you open a document in QuarkXPress that uses 26 fonts, they are all activated automatically, and you never see a Missing Fonts alert.

BASIC FONT MANAGERS

If you just need something to list all your fonts, preview them, and turn them on and off, these basic tools will do the job.

FONT BOOK (free with Mac OS X, www.apple.com)

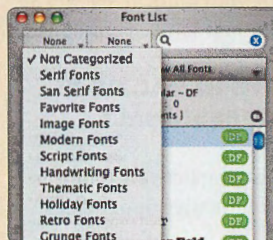
Located in your Applications folder, Font Book offers a clean interface that lets you create font collections (or sets) for specific purposes, view a character map, see customized font previews, locate font files on your hard drive, specify that selected fonts activate with specific applications, and view some font details. Although Font Book doesn't offer automatic font activation on its own, you can set this up with Tiger's Automator (though you're on your own with that one).



Apple's Font Book can show you a font in customizable text.

FONT TOOLS (\$39.95, www.veenix.com)

Font Tools includes tools for converting measurements, calculating proportions, sampling color values, and grabbing screen captures. Within the disjointed interface, you'll find a surprising number of features for the price, including the ability to search, view by class and type, preview with custom page

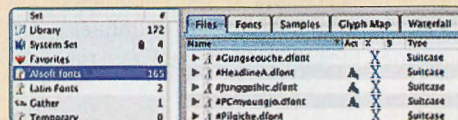


and type color, and print a type book. You also get a preview slide show with customizable text and a unique tool for measuring a font's ascent, descent, and leading.

Font Tools lets you choose which fonts to display in its font list.

MASTERJUGGLER (\$89.95, www.alsoft.com)

MasterJuggler provides font sets, temporary activation, customizable previews, activation for Classic apps, Font Guardian for rooting out corrupt fonts, detailed font information (including version number, foundry, and copyright info), and a menu in the Dock for quick font activation. Although it's fast and easy to use, MasterJuggler simply doesn't offer the power you can get from the advanced products for just \$10 more.



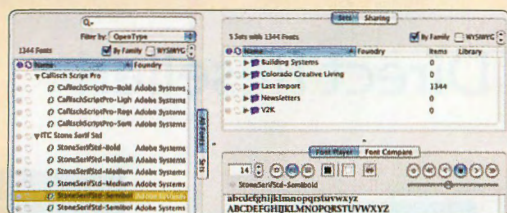
MasterJuggler displays font details, maps, and more.

ADVANCED FONT MANAGERS

Advanced font-management applications take things further by automatically activating fonts as you open documents, providing tools for managing fonts in the various Fonts folders (including getting them out of there) and handling font corruptions. They also all offer font-management tools for workgroups—an attractive incentive if you're in print publishing.

FONTAGENT PRO (\$99.95, www.insidersoftware.com)

Always up-to-date and stable, FontAgent Pro offers superior corruption checking and repair along with quick, system-wide automatic font activation. Unfortunately, its auto-activation is based on nothing but font name—it simply activates the first version of Minion, for example, that it finds. That doesn't cut it if you're in professional print publishing (especially if you receive a variety of fonts from different sources). Also, FontAgent Pro doesn't deactivate fonts when you close documents, nor does it offer temporary font activation.

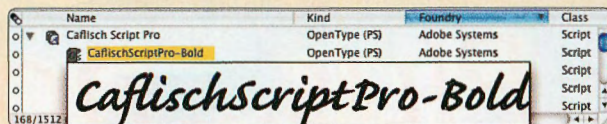


FontAgent Pro makes it easy to find the font you want.

FONT RESERVE (\$99.95, www.extensis.com)

After Extensis acquired the developer of Font Reserve a couple years back, this manager has been somewhat of a lame duck. But Font Reserve still offers the best in automatic font activation for professional publishing. Its exclusive Font Sense technology uses plug-ins to imprint QuarkXPress, InDesign, and Illustrator files with specific information about the fonts in a document. The plug-ins then automatically activate precisely the right fonts

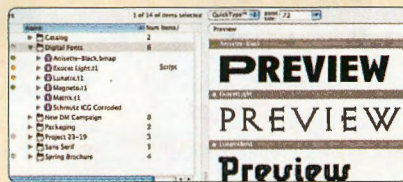
as you open documents, guaranteeing absolute font fidelity. The font database is sometimes buggy, however, and there's no font player for quickly comparing custom text in different fonts.



The Font Reserve Browser shows a wealth of font information.

SUITCASE X (\$99.95, www.extensis.com)

The old standby of font managers, especially after the demise of ATM Deluxe, Suitcase received a major facelift for Mac OS X. It now features an awesome font player that lets you preview any text in a variety of fonts on demand. Suitcase also offers solid auto-activation for publishing applications through plug-ins, but based on Apple's FontSync technology for font identification. While fine for most uses, FontSync doesn't offer the precision a print-production department may require. Keywords can help, however, allowing users to label fonts with client and job names.



Suitcase X is renowned for its font player.

NEXT-GENERATION FONT MANAGERS

Most people have a love/hate relationship with Suitcase and Font Reserve—they either love Suitcase and hate Font Reserve or vice versa. So when Extensis (developer of Suitcase) acquired DiamondSoft (developer of Font Reserve) in June 2003, it struck fear in the hearts of users who were dedicated to one or the other. Rumors flew about the demise of Font Reserve, the underdog with a loyal following and a strong grip on the font-server market.

Martin Stein, director of product management for Extensis, has tried to reassure anxious fontsters by announcing Suitcase and Font Reserve will marry in early 2006. "We are close to releasing a unified font manager—our next-generation font manager," says Stein. "Suitcase, which is the

market leader, and Font Reserve, which is number two in the market, will merge into a new font-manager product.

"Feature-wise, the product will maintain the user interface—including the wonderful preview pane—from Suitcase, along with the deep technologies of Font Reserve, such as the managed Vault and font-identification technologies based on Font Sense. This will unify the best-of-breed products."

Although Extensis has not announced the cost or upgrade options, Stein assures us that it's safe to buy whatever product you want—Suitcase X or Font Reserve—today. "The new product will be in the same price range, and there will be an easy, smooth transition to the new product. We'll take care of all our customers."

John Cruise has amassed a huge arsenal of fonts over the past 20 years while writing books and articles about desktop publishing and graphic design. He'd like to say that because he practices what he preaches about font management, he never has any font-related problems, but he'd be lying. Kelly Kordes Anton has been writing about and wrestling with font managers for eight years. Her favorite T-shirt (from Linotype) says, "Helvetica is not an Adobe font."

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Extension University







By Robert Strohmeyer

From videos and music to presentations and graphics, the Web is awash with unfamiliar files. Email, too, can bring mysterious documents to your desktop—files with exotic extensions like .exe and .wmv. Do you know what those three letters mean? Or, even more importantly, do you know what to do with the files they denote? With this guide to file types, you can be sure you'll know your .asf from your elbow.

BUSINESS DOCUMENTS

Business documents come in a myriad of forms, and Microsoft Office handles most of them automatically. But waiting for Word to load can slow you down, and it isn't



always the best editor for every type of file. Here are some fairly common file types, along with the best applications to handle them.

EXTENSION	OPEN WITH	WHAT YOU'RE LIKELY TO FIND
 .doc	Microsoft Word	A mostly text document, possibly with complex formatting, graphics, or even multimedia elements.
 .indd	Adobe InDesign	A professionally designed document, such as a magazine page or advertisement.
 .pdf	Preview, Acrobat Reader	A carefully formatted document that's designed to appear exactly the same on a variety of devices.
 .ppt	Microsoft PowerPoint	Multimedia presentation with video and sound. Some shareware apps let you view (but not edit) these.
 .rtf	TextEdit, Microsoft Word	It stands for Rich Text Format, so mostly text with minor formatting, such as bold or italics.
 .txt	TextEdit	Simple document with little formatting; often ReadMe files that come with applications.

EXECUTABLE AND SYSTEM FILES

Applications and utilities are easy to identify by their file extensions and icons, but non-OS X application files require





special third-party software to run on your Mac. Here are a couple common executable files you might run into.

EXTENSION	OPEN WITH	WHAT YOU'RE LIKELY TO FIND
 .app	Self-opening	An application or utility that runs on its own.
 .exe	Lisimore Guest PC, Microsoft Virtual PC	A Windows application that won't run on your Mac (aw, too bad) without a Windows emulator.

COMPRESSED FILES

Sending large files, or even folders full of large files, via email is a whole lot easier if you can compress them a little. Here are






the most common compression types you'll run across as you traverse the great expanse of the Internet.

EXTENSION	OPEN WITH	WHAT IT IS
 .hqx	StuffIt Expander	Called Binhex, the HQX file format is far less common today than it was a few years ago, but you're still likely to find Binhex files available for download on some Web sites.
 .sit	StuffIt Expander	This is the native compression format for StuffIt. It's rarer now that OS X handles ZIP files natively without a Windows emulator.
 .tar	StuffIt Expander	Now that BSD Unix is part of OS X, you often see .tar (or .tar.z, .tar.gz, or .tar.zip) on download sites. StuffIt handles these easily, but you can also use Terminal if you're feeling adventurous.
 .zip	StuffIt Expander, OS X	Originally designed for the PC's DOS operating system, the ZIP format is the most common type of compression today. OS X has built-in support for zipping and unzipping files.

GRAPHICS

While .jpg is the most common extension you see these days, it isn't always the best format for every purpose. Image formats







fall into two categories: lossless and lossy, depending on how much of the original image data is lost in compression.

EXTENSION	OPEN WITH	WHAT YOU'RE LIKELY TO FIND
 .eps	Photoshop, Illustrator	A very large file that will only print properly on a PostScript printer. It stands for Encapsulated PostScript.
 .gif	Preview, iPhoto, Photoshop	A simple color graphic. A GIF is limited to 256 colors, so it's a poor choice for photos.
 .png	Preview, iPhoto, Photoshop	Quickly replacing GIF as the de facto standard for Web graphics, PNG does a better job creating smooth transparent images.
 .psd	Preview, iPhoto, Photoshop	A file native to Adobe Photoshop. PSD files can include application-specific information, such as layers, that takes advantage of Photoshop's powerful editing features.
 .tiff	Preview, iPhoto, Photoshop	Sometimes seen as .tif. An uncompressed (and, as a result, very large) image file. Some older Web browsers can't open these files.

VIDEO

Between your broadband connection and your digital camcorder, you've probably got a few hundred movie files scattered around your hard drive by now. But unless you've










downloaded some third-party video software, not all of them will open automatically on your Mac. Here's how to deal with the most-common movie files.

EXTENSION	OPEN WITH	WHAT YOU'RE LIKELY TO FIND
 .asf	Windows Media Player	A streaming-video file in Microsoft's Advanced Streaming Format; not especially Mac friendly.
 .avi	QuickTime (some)	A fairly small or low-resolution video. This format has been all but replaced by WMV.
 .mov	QuickTime	A video file in the standard Mac QuickTime format.
 .mpg	QuickTime	A video file in the most-common cross-platform-compatible format available.
 .rm	RealPlayer	A file that the proprietary RealPlayer uses to stream video.
 .wmv	Windows Media Player	A video in one of several Windows-compatible formats.

AUDIO

The overwhelming popularity of the iPod, iTunes, and the iTunes Music Store has managed to make your Mac the best music

player on Earth. Still, you'll come across some files that iTunes won't know what to do with.

EXTENSION	OPEN WITH	WHAT YOU'RE LIKELY TO FIND
 .aac	iTunes	A compressed music file with audio quality equivalent to, if not better than, MP3.
 .aiff	QuickTime, iTunes	A CD-quality audio file or system sound file.
 .m4p	iTunes	A music file bought from the iTunes Music Store that's not likely to play on other portable music players.
 .midi	QuickTime, GarageBand	A music file that often sounds like a cheesy Casio synthesizer from the 80s, or maybe a ring tone for a cheap cell phone. MIDI files are also a way of getting music into GarageBand.
 .mp3	iTunes	A music file that'll play on just about anything—but may not sound so great if encoded at a low bit rate, since MP3 is a lossy format.
 .ogg	Audion 3	A high-quality compressed music file that owes nothing to corporate interests—it's open and patent free. You can download Audion 3 for free at www.panic.com/audion .
 .ra	RealPlayer	A file that RealPlayer uses to stream audio.
 .wav	QuickTime	A very large music file or an old Windows system-sound file.
 .wma	Windows Media Player	Microsoft wishes this were the only audio format in this table.

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Sam Litt
Author of the Mac OS X Bible, Tiger Edition

"Surpasses the others..."

Andrew Shalat
InDesign Magazine, June/July 2005

"Because of the ease of use and powerful feature set, FontAgent Pro is the "designers" font manager. I give FAP a 5/5 for such a useful and easy to use product that makes our font headaches go away for good."

Colin Smith, Photoshop Café

"FontAgent Pro is so simple and straightforward in its design that we now plan to extend the move to OS X and run FontAgent Pro on all our Macs."

F. Hersperger, Vice-Director
ECAV School of Art and Design

"We switched our twenty-plus Macs to FontAgent Pro in less than a day. The next day our font problems had all but disappeared."

David Xenakis, President, XRX, Inc.
Publisher of Knitter's Magazine & Knitter's Books

"FontAgent Pro is simply the BEST font management tool I've found for Mac OS X."

Ted Padova, Author of Adobe Acrobat PDF Bible
Co-author of Adobe Creative Suite Bible

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Mark Lamhut, Paul-Mark Printing

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Chuck Sholdt, Vice President, Weather Central

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Scott McCarty, Cape Gazette

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Eric O'Connell, Apple Consultants Network

"FontAgent Pro from Insider Software aims to be the most comprehensively useful font management tool a designer can have... It proved to be every bit as good as it was billed."

Keith Martin, MacUser 2005

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You'll be
blown away.



You'll be
impressed.



You'll be
satisfied.



You'll be
disappointed.



You'll be
pissed off.

better living through smarter shopping

A good product should make your life easier. Take, for example, Griffin Technology's RocketFM (pictured), which lets us hear our iTunes songs through our home stereo with very little fuss. Red Rock Software's DeltaGraph takes the pain out of making charts and graphs for our layouts. And thanks to Cosmic Blobs, we finally have a 3D app that even our dog can understand. Next month, we'll take a look at a variety of iPod accessories and external hard drives for the Mac mini.

- 40 Bryce 5.5 3D-landscape software
- 45 Commandos Battle Pack action-strategy game
- 49 Cosmic Blobs 1.1 kids' 3D-modeling software
- 54 DecoDock iPod shuffle dock
- 42 DeltaGraph 5.6 chart-making app
- 50 Disc Stakka disc-storage system
- 48 Flatron L2013P LCD display
- 52 Flexible Dock for iPod shuffle USB extender
- 46 Guest PC Windows emulator
- 51 Kill Monty action game
- 47 iControl GarageBand controller
- 52 irock Beamit 450FM iPod FM transmitter
- 54 iTop iPod button relocater
- 44 magicolor 2430 DL color laser printer
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- 38 OptioWP camera
- 37 Photosmart 385 photo printer
- 54 PocketMac for PSP PSP utility
- 53 Power Game Factory game-creation kit
- 37 PictureMate Deluxe Viewer Edition photo printer
- 52 RocketFM iPod FM transmitter
- 36 The Sims 2 life-simulation game
- 48 Thump MP3-playing sunglasses
- 49 TuneJuice iPod accessory
- 43 Tungsten E2 PDA

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Mac OS 9 or earlier.



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own hard-earned
money on this
product.

The Sims 2

ADDICTIVE LIFE-SIMULATION GAME



Sims now have wants and fears, which affect their aspiration meters. Fulfill their wants and avoid their fears—unless you're cruel.

The Sims 2 builds on the habit-forming quality of the original game and takes it to a new level of realism—and yes, addiction.

In The Sims 2, it's still your job to micromanage the daily lives of virtual families you create. You make sure they eat, take baths, get enough sleep, and make it to work, but there's a new twist: You also assign your Sims aspirations (knowledge, money, or family, for example) that determine specific goals. Performing certain tasks (such as gaining a logic skill point or becoming friends with a certain neighbor) keeps your Sim's aspiration meter high and your Sim happy. You also earn points that let you buy crazy items such as money trees or life-extending potions.

Gettin' old. Another big addition is that this time around, your Sims age. There are different stages of life: baby, toddler, child, teen, adult, and elder. Sims get

fat if they don't work out, and hair turns gray when they become elders. Female Sims even get pregnant (and grow bellies) before they give birth. Warning: You might want to shield children's eyes when a Sim couple conceives—unless you're ready for "the talk."

Every aspect of gameplay is a little more detailed than in the original.



Faces are highly customizable now—you can even shape your Sims' cheekbones and pick their hairdos.

Instead of simply commanding your Sim to make dinner, you pick what to eat. (The variety and quality of meals improves depending on your Sim's cooking skill.) Sims only have to work five days a week now, rather than every day like before. They get vacation days and can call in sick to work—they even get a pension when they retire. And at random moments, certain work dilemmas pop up onscreen—how you handle the situation can gain (or lose) your Sims skill points and money.

The details. The game's graphics are much more detailed than before—you can actually see the bubbles in a bath or what Sims are watching on TV. Plus, the ability to customize your Sims is greatly

enhanced. From the shape of the nose to the curve of the mouth, there are lots of choices when designing the look of your Sim. And there are tons more options for building your abode—you add foundations, decks, and funky angles.

One disappointment: The Sims 2 doesn't have a notably larger catalog of furniture than the original. Plus, if you've gotten used to the bonus goodies in the original game's six expansion packs, you may be disappointed with the lack of cats, dogs, and other add-on fodder—prepare to buy a bunch of expansions again some day. Also, performance is only so-so. On our dual 1.25GHz G4, the game ran sluggishly and tended to freeze up for a few seconds on certain occasions.

The bottom line. Between making babies, working, changing diapers, studying, exercising, and cooking mac and cheese, it's easy to get caught up in a Sim life. Now, how can we pry ourselves away to live our real lives?
—Cathy Lu



COMPANY: Aspyr
CONTACT: 512-708-8100,
www.aspyr.com
PRICE: \$49.99

REQUIREMENTS: 1.25GHz G4, Mac OS
10.3.8 or later, 256MB RAM, 3GB disk space,
32MB Radeon 9000 or GeForce FX5200 video
card, DVD drive

GOOD NEWS: Much-improved graphics. Aspirations and life stages add depth.

BAD NEWS: A paucity of new household items. Can run pokily on certain machines.

MacAddict RATED
●●●●●
GREAT

PictureMate Deluxe Viewer Edition Photosmart 385

VERSATILE PHOTO PRINTERS



Worried about the one-hour-photo guy becoming obsessed with your suburban family? Get one of these printers.

and 100 sheets of media come together in a single pack, but your ink is more likely to run out before your media.

The Photosmart prints at a resolution of 4,800 by 1,200 pixels (slightly lower than the PictureMate), thought it's nearly impossible to see where the extra pixel count comes into play on the printed page, since both look identical in even the finest details. However, the Photosmart reproduces color more accurately, and while the PictureMate's prints tend to look warmer and brighter than the Photosmart's, the colors are less true to life.

The Photosmart 385 prints almost exactly one page per minute; if you're printing multiple copies, it's a good idea to add an extra 10 seconds between prints to prevent the ink from smudging. The PictureMate takes its sweet time, lazily pumping out a single print over the course of nearly a minute and a half.

The bottom line. Compared to the PictureMate, the Photosmart 385 has a slightly larger display, slightly smaller footprint (8.7 by 4.5 inches versus Epson's 10-by-6-inch form), and—at \$200—slightly lower price tag. Both printers are great, but we give the slight edge to the Photosmart for its realistic color, smaller form factor, practical red-eye remover, and lower cost.—Robert Strohmeyer

No longer satisfied with sounding the death knell of the Fotomat, desktop photo printers are now trying to make your Mac an optional accessory. With enormous built-in displays, memory-card slots aplenty, and a host of editing features, most home photo printers can crank out lab-quality 4-by-6-inch prints without having a single cable attached—not even a power cable. Epson's PictureMate Deluxe Viewer Edition and HP's Photosmart 385 are two of the newest photo printers to hit the market since our photo-printer roundup ("Snapshot Printer A-Go-Go," Apr/05, p24), and both are worthwhile home photo labs.

Image control. The \$250 PictureMate has a large, friendly 2.4-inch LCD color display that lets you view and edit your images before you print. The LCD gives you plenty of room to preview your images and makes it easy to navigate the contents of your memory card in search of the shots you want. Once you open the image you want to edit or print, things get a little more cramped. While the PictureMate's screen is bigger than the LCD supplied with most digital cameras, it's still fairly difficult to get accurate views of your shots without zooming and scrolling. Detailed editing isn't this printer's strong suit, but you can crop out unwanted backgrounds, select various print sizes, switch to black-and-white or sepia tone, or insert

lame—er, we mean "fun"—Disney picture frames before printing.

Onscreen editing is somewhat easier on the Photosmart 385, with its slightly larger 2.5-inch display. Massive buttons on the top help you intuitively navigate through the images on your memory card, and you can remove red-eye in addition to cropping images. Unfortunately, unlike the PictureMate, the Photosmart forces you to swap ink cartridges for black-and-white printing. But swapping might save you money: With a per-print cost of roughly 24 cents, the Photosmart costs you about a nickel less per print than the PictureMate. Both printers also have an optional battery (\$79.99 for the Photosmart 385, \$69.99 for the PictureMate).

Image quality. The PictureMate uses a single six-ink cartridge to produce prints of up to 5,760-by-1,440-pixel resolution, producing crisp, detailed images that closely rival lab quality. One cartridge

PictureMate Deluxe Viewer Edition

COMPANY: Epson

CONTACT: 800-873-7766, www.epson.com

PRICE: \$249.99

REQUIREMENTS: USB-equipped Mac, Mac OS 10.2 or later

GOOD NEWS: Prints color, black-and-white, or sepia images with one ink cartridge. Vibrant colors.

BAD NEWS: "Massive" size and handle make it look more like a lunchbox than a printer.

MacAddict RATED
GREAT

Photosmart 385

COMPANY: HP

CONTACT: 888-999-4747, www.hp.com

PRICE: \$199.99

REQUIREMENTS: G3, Mac OS 10.1 or later, 128MB RAM, 500MB disk space

GOOD NEWS: Produces lifelike color. Great low price. Built-in editor removes red-eye. Small size.

BAD NEWS: Black-and-white printing requires separate cartridge.

MacAddict RATED
GREAT

PHOTOGRAPHS BY SAMANTHA BERG

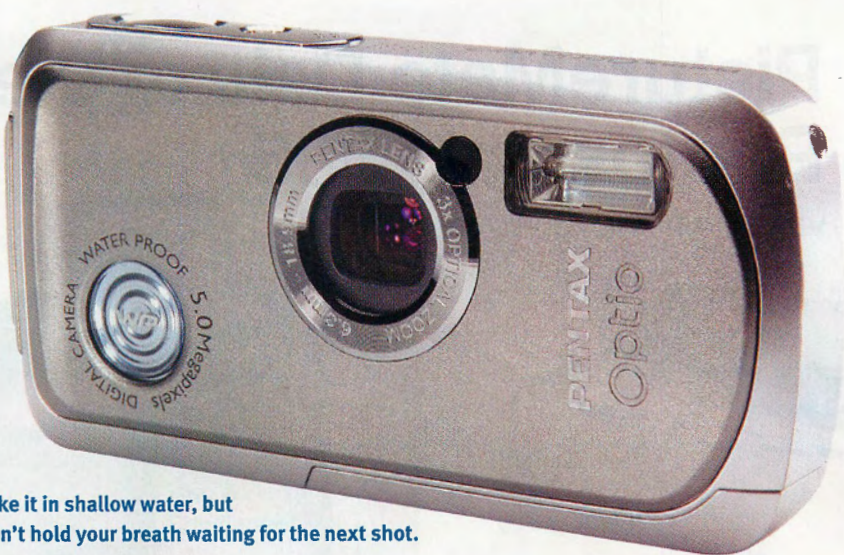
OptioWP

SLOW SUBMERSIBLE CAMERA

The 5-megapixel OptioWP is a cell-phone-sized silver amphibian of a digital camera, and it's not intimidated by snow nor rain nor heat nor gloom of night. While it's sealed against the elements and able to shoot while submerged 5 feet underwater for 30 minutes at a time, the OptioWP can sometimes be infuriatingly slow.

After the OptioWP focuses, there's a significant delay (up to 1 second) between the time you press the shutter-release button and the actual exposure. After that, you can't take another shot for 2 to 4 seconds. Reviewing a just-shot image is slow, as well—after pressing the Playback button, we had to wait from 4 to 8 seconds (depending on the speed of our SD memory card) to see our picture. Setting the camera to Instant Review sped things up, but it also increased the shot-to-shot time.

The OptioWP lacks an optical viewfinder; shots are framed on its 2-inch LCD. This sucks a lot of juice



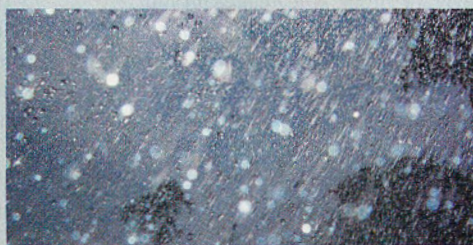
Take it in shallow water, but don't hold your breath waiting for the next shot.

80 pics when using the camera's flash) before the battery needed recharging. That's not a stellar number, but considering that the OptioWP's diminutive size (2 by 4 by 0.9 inches) allows no room for a larger battery, it's acceptable. No memory card is included; instead you get 10.5MB of built-in memory, which is good for three to 10 pictures at 5 megapixels depending on which of three

aperture of f/3.3, and shutter speeds ranging from 1/2000 to 4 seconds. The OptioWP's 20 preset modes, including Sport, Landscape, Fireworks, Food, Surf & Snow, Candlelight, Panorama, and Movie (with sound), can handle virtually any situation—a Pet mode even lets you select the shade of your best friend's coat so it will be properly exposed. Most modes also have onscreen descriptions. For example, Portrait says, "Skin tones will be brighter to make the person look healthy." Perfect, we thought, for our upcoming hospital visit.

The OptioWP is not a substitute for a more-sophisticated underwater rig. Underwater pics usually show best color and clarity when the camera is close to the subject; this requires a wide-angle lens with at least a 70-degree field of view to frame the image properly. But even at its widest zoom setting, the OptioWP has only a 50-degree field of view, forcing you to back away from your subject too far. It's not that you can't get some good underwater shots—you'll just have to work for them.

The bottom line. If it weren't for its excellent image quality, the OptioWP would be just another cutesy weather-resistant, waterproof digital camera. Instead, it's a nice take-anywhere buddy that won't cry over spilt milk, beer, wine, or anything else—provided that you don't want a series of action shots of that spilled beer.—Arthur Bleich



Above: The "hailstones" are actually super-close rain droplets illuminated by the flash. **Left:** The OptioWP produces sharp, color-accurate images with good shadow and highlight detail.

from its underpowered battery (get a spare). To conserve power, the LCD doesn't ramp up to full brightness until you press the shutter button halfway down, at which point it dims even further before coming alive. Under low-light conditions, the resulting flicker is distracting. And when bright sunlight hits the display, prepare for a game of point and guess.

We shot about 160 pictures (or

compression modes you choose. You can also select five lower resolutions down to 640 by 480.

Saving grace. Fortunately, the OptioWP takes good pictures. Color is right on, and dynamic range (the details you can see in both dark and light areas of the image) is impressive. The camera has an ISO range of 50 to 400, 3x optical zoom (the equivalent of 38mm to 114mm on a 35mm camera), maximum



COMPANY: Pentax
CONTACT: 800-877-0155,
www.pentax.com
PRICE: \$399

REQUIREMENTS: USB-equipped
Mac, Mac OS 9.2 or later

GOOD NEWS: Compact. Waterproof. Excellent color accuracy and image quality.

BAD NEWS: Slow. Wimpy battery and flash. Slow. No optical viewfinder. Did we mention it's slow?

MacAddict RATED
●●●●●
SOLID

Having trouble getting your point across?

Try an application that's actually designed to make this stuff look good.



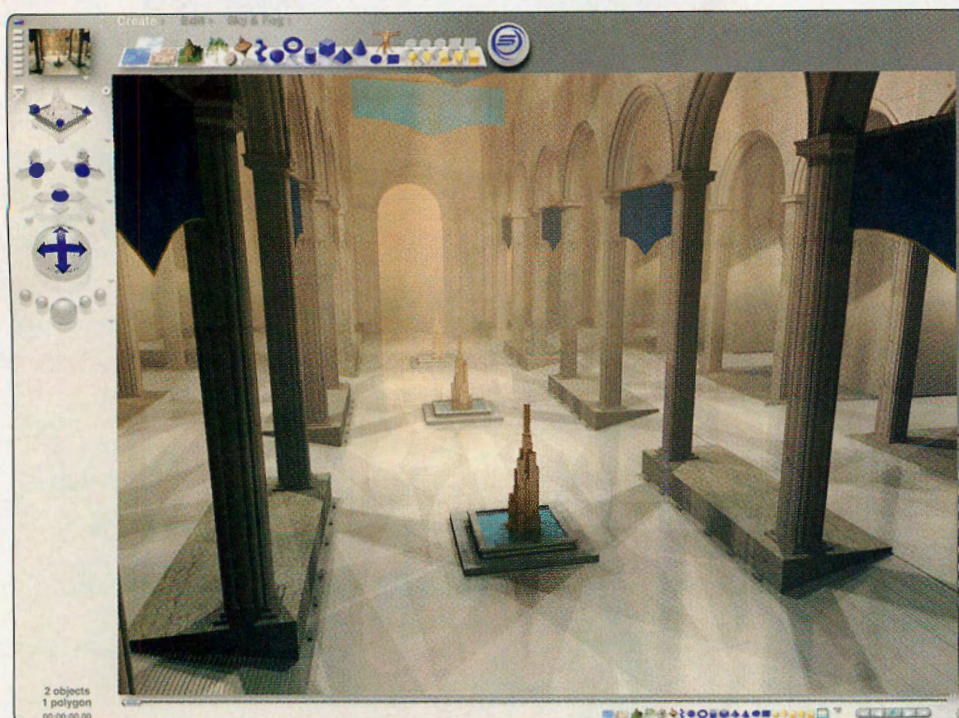
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Bryce 5.5

ANTIQUATED 3D-LANDSCAPE SOFTWARE



Bryce's render quality lags behind that of other landscape-making apps.

There was a time, long ago, when Bryce was the dominant force in landscape-generation tools. Nothing could touch it. Sure, it had a quirky interface, but you could get good results even without advanced 3D-modeling skills. Bryce has had a few developers over the years, from the legendary lone ranger Kai Krause to MetaCreations to Corel; Daz is the latest company to pick up and carry the Bryce torch.

Unfortunately, Daz's Bryce isn't really all that different from the Corel release a few years ago. The look and feel remains exactly the same; the interface is still hit and miss (Daz calls it innovative; we call it outdated), and the realism of its results doesn't quite match what you get from other apps such as Vue d'Esprit (Aug/02, p49).

Bryce isn't without a bag of

fun tricks, however. You can quickly add mountains, rocks, water, terrain, trees, semirealistic skies, and more to your landscape. The Tree Lab has some surprisingly intuitive controls, and you have a good amount of control over the type of trees you can add. The



Bryce lets you quickly add sky and clouds to your image.

same goes for the Terrain Editor, which lets you edit the shape of your landscape by painting bump maps, and the Light Lab, which provides you with a range of options for changing and experimenting with the lighting of your scene.

Bryce now features integration with Daz Studio, a free app that lets you import Poser models, shape their poses, and add props until you have a character ready to place in your scene. A huge button makes it easy for you to export your figures into Bryce. Other new features include better OpenGL support and Bryce Lightning 2, which lets you distribute rendering duties across many Macs (or even PCs) on a LAN.

A bit faster. Bryce has a reputation for slow rendering, but we found rendering speedy enough—although we found it hard to believe Daz's claim that some scenes will render 150 percent faster than in the previous version. Daz claims an average rendering-time improvement of 30 percent—that's much closer to reality.

Running on Mac OS 10.3 (Panther), Bryce worked fine. But on OS 10.4

(Tiger), Bryce stopped working completely—we couldn't even get it to launch. User forums report similar problems: Bryce crashing in Tiger, menus not appearing, and so on. Be sure to check Daz's Web site for updates.

The bottom line. As a fun tool for experimenting and generating 3D landscapes without any real 3D-modeling knowledge, Bryce is a winner. But, with no substantial changes since the last release, it lags behind its competitors in terms of render quality and features.

—Rob Carney



COMPANY: Daz Productions
CONTACT: 800-267-5170,
www.daz3d.com
PRICE: \$109.95

REQUIREMENTS: 500MHz G3, Mac OS 10.2
or later, 256MB RAM, 100MB disk space

GOOD NEWS: Fun. Tree Lab, Terrain Editor, and other tools are easy to use.

BAD NEWS: Unpredictable if you're running OS 10.4 (Tiger). Quirky interface. Slow renders.

MacAddict RATED
●●●●●
SOLID

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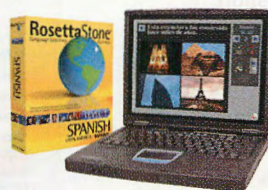
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- The Boston Globe

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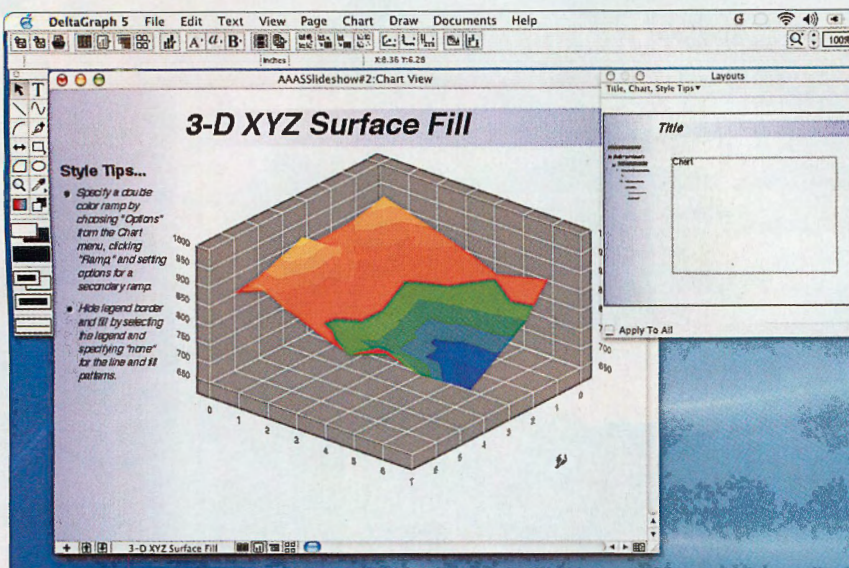
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DeltaGraph 5.6

COOPERATIVE CHARTING APP



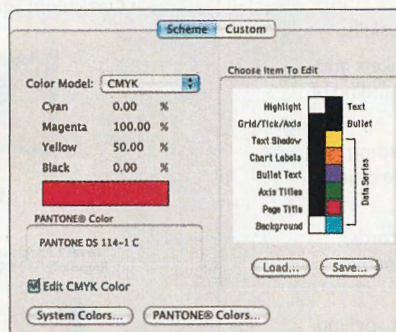
With 80 chart types, DeltaGraph is a chart maker's dream.

Excel makes charting as easy as one, two, three for business folks; but scientists, mathematicians, and statisticians demand a bit more than Excel can handle. That's where DeltaGraph comes in—it not only creates spreadsheets for the number crunchers, it also creates charts and graphs that math geeks will love.

Geeks everywhere will snort with excitement as DeltaGraph accommodates curve fits and nonlinear regression charts. For everyone else, DeltaGraph can read data from Excel, ASCII, SYLK, and Lotus 123-compatible WKS files. DeltaGraph lets you create 80 chart types; Excel offers fewer than 30. DeltaGraph can also link to an Excel worksheet and use the data for its charts; your linked DeltaGraph chart will even update itself when you alter data in Excel—after you close and reopen the DeltaGraph file you're working in.

When you create a 2D or 3D chart, DeltaGraph takes a look at your data set and tells you if your data is appropriate for the type of chart you've chosen. The app also includes a Chart Advisor

that recommends the most likely type of chart for the range of data entered. Virtually any component of a chart can be customized, from line weights to the perspective of a 3D projection. Dialog boxes allow you to change fonts, rotate type, modify legends, and preview results before accepting a change. Once



DeltaGraph's Pantone color support takes the guesswork out of color-matching your charts.

DeltaGraph has drawn a chart, you can add graphics (such as logos) and import PICT, BMP, PSD, PNG, GIF, TIFF, JPEG, PDF, and QuickTime Movie files.

Chart export. Excel can't export its charts to formats such as EPS or PDF. While you can copy and paste in Excel, that doesn't cut it when you're laying out a publication in QuarkXPress or Adobe InDesign; and designers often need to turn to Adobe Illustrator's chart tool to reconstruct the chart. DeltaGraph trumps Excel in this area, too: It can crank out charts in PICT, JPEG, JPG2000, PDF, EPS, BMP, Photoshop, TIFF, PNG, SGI Image, QuickTime Image, or TGA format. Export resolution is adjustable, with choices from 72 ppi for the Web to 1,200 ppi for high-resolution prints. DeltaGraph also supports Pantone color matching; Excel doesn't.

DeltaGraph has a built-in slide-show function with a menu of customizable templates. Slides and handouts may be printed, but exporting the slides into a standalone presentation isn't possible—it's better to dump the charts into Keynote or make a PDF.

A downloadable plug-in makes DeltaGraph friendly with Tiger's Spotlight, so you'll never lose track of things. DeltaGraph can even be automated via AppleScript and comes with a well-written printed manual.

So what could be better? You often have to wade through a bevy of dialog boxes, menus, and key commands in order to access DeltaGraph's myriad options. Only daily users are likely to remember the right path to what they need; everyone else should probably prepare to hunt. DeltaGraph would also benefit from a better undo scheme—you only get one undo, and even that is frequently unavailable.

The bottom line. DeltaGraph almost vanished from the map until Red Rock Software acquired it nearly three years ago and made it OS X compatible. Now it's once again an appealing, powerful alternative for chart makers. We're extremely grateful it's still a viable alternative to Excel.—Tom Lassiter



COMPANY: Red Rock Software
CONTACT: 801-322-4322,
www.redrocksw.com
PRICE: \$324

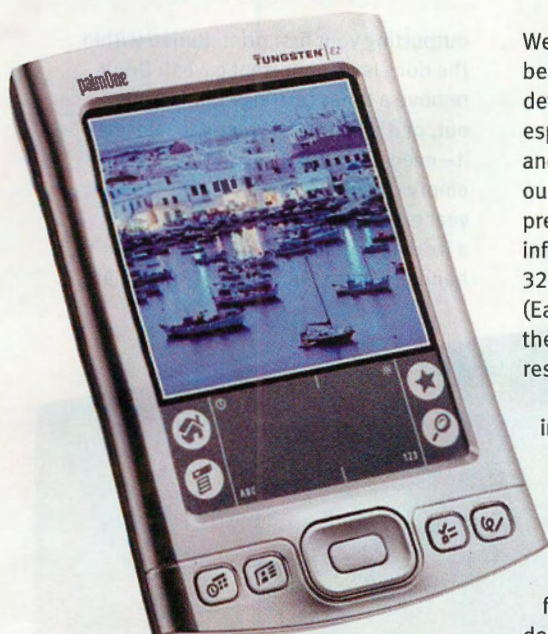
REQUIREMENTS: G3, Mac OS 9.2.2
to 9.x (with CarbonLib 1.6) or Mac OS
10.1.5 or later, 128MB RAM, 60MB
disk space

GOOD NEWS: Lots of chart types to choose from. Can export
charts to several different file types. Helpful Chart Advisor.
BAD NEWS: Can't update linked Excel data on the fly.
Inefficient interface. Only one level of undo.

MacAddict RATED
GREAT

Tungsten E2

MO' BETTER PDA



It may be new and improved, but this assistant still doesn't pick up dry cleaning.

The Tungsten E2 isn't a revolutionary PDA, but it's a step up from its predecessor (the Tungsten E) on just about every level. It features better everything: screen, battery life, connectivity, processor, and memory.

Measuring 0.59 inches thick and weighing 4.7 ounces, the E2 retains the trim and stylish look that attracted people to the E in the first place, but there's some extra power packed inside this package. One of the biggest improvements is the quality of the display—it's brighter and features better color saturation than the E. We were impressed with the way our pictures looked on the E2's 320-by-320-pixel transfective TFT display—colors were rich and vibrant, and images were sharp and detailed.

Longer battery life is another perk.

We were able to go nearly 12 days before we were forced to recharge the device—something to be thankful for, especially in this age of gadget overload and crowded outlets. And even when our battery did finally die out, the E2 preserved all of our contacts and other information, thanks to the brand-new 32MB of nonvolatile flash memory. (Earlier Palm PDAs would lose data once the battery died, forcing you to sync to restore your information).

Wireless sync. Bluetooth is now built in, making it simple to sync and send files wirelessly—when we sent and received picture files over Bluetooth, the exchange went smoothly. The E2 also comes with Documents To Go 7.0, which lets you view PowerPoint files as well as view and edit Word documents and Excel workbooks.

The E2 is versatile, allowing you to store contacts and calendar items, view pictures, and play games, but the device makes a disappointing MP3 player. The E2 uses RealPlayer to play MP3s you've put on its SD card with the included Send To Handheld application—you can't store music to internal memory. You can play tunes through the built-in speaker, but the speaker's position on the back of the device is less than ideal—if you fold the protective cover behind the device or lay the E2 on a table, the audio becomes muffled. Plug in headphones instead. There are other audio problems too: On a number of occasions, the device inexplicably stopped playing our tunes halfway through our playlist and just went to sleep.

The bottom line. The E2 won't win any innovation awards, but if you're looking for a basic PDA that can do a little of everything, the E2 should fulfill most of your needs.—Cathy Lu

COMPANY: Palm

CONTACT: 800-881-7256, www.palm.com

PRICE: \$249

REQUIREMENTS: USB-equipped Mac, Mac OS 10.2.6 or later

GOOD NEWS: Excellent battery life. Flash memory means you won't lose your contact info.

BAD NEWS: Oddly located speaker. Not a super-compelling upgrade.

MacAddict RATED
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MACLAB 301-270-8445

magicolor 2430 DL

PHOTO-CAPABLE COLOR LASER PRINTER

Crisp text and speed have always been the forte of laser printers, but high-quality photo output? *Fuhgeddaboutit*—unless you don't mind paying over a grand for a laser printer that can do photos. Until now, that is. The magicolor 2430 DL knocks out beautiful color images that are virtually indistinguishable from inkjet photos printed on matte media. At 2,400 by 600 dpi, the 2430 DL lays down a tight dot pattern that's actually sharper than an inkjet's, and it does so with no ink bleed. At normal viewing distance, photos have a smooth, continuous tone.

Don't deep-six your inkjet printer just yet, though. The 2430 DL is limited in both output size (8.5 by 14 inches maximum, with no edge-to-edge printing) and media surfaces. Unlike inkjet printers, laser printers heat-fuse toner to the surface of your media; your prints wind up with a matte-satin finish regardless of media type or weight. The printer driver's brightness, contrast, and saturation controls couldn't be simpler, though you can still make all the usual adjustments in your imaging app.

Fast. The 2430 DL is speedy; text rolls out at 20 pages per minute. Our first 8-by-11-inch color photo took just 35 seconds, and subsequent copies flew out at 12-second intervals. A black-and-white image with a rich tonal scale took 15 seconds for the first print and only 2 seconds for each additional one. The printer handles up to 90-pound-index paper for prints with a hefty feel.

In addition to 2,400 dpi, you can print at 600 dpi and 1,200 dpi, but there's little point in doing so; there's no increase in speed and only a penny or two savings on toner per image (which is already cheaper than an equivalent inkjet print). The printer is also PictBridge 1.0 compliant, which allows output directly from a compatible digital camera. But even when we installed an extra 256MB of RAM (required for full-

featured PictBridge operation), prints took minutes rather than seconds—more the fault, we determined, of the camera-controlled PictBridge software than the printer.

Lil' noisemaker. The 2430 DL isn't exactly svelte, but it's also not as elephantine as most other laser printers. Its toner cartridges rotate instead of

outputting your first print. Buried within the docs is an important caveat: Don't remove a toner cartridge until it runs out, or it's history. If you try to reinsert it—even if it's full—the printer sees it as empty. The 2430 DL has a generous one-year extendable warranty; if you need a fix that a mere tech-support call can't handle, Konica Minolta will give you a



Print awesome photos with freakin' laser beams!

being fixed inline, trimming the printer's size to 16.9 by 19.8 by 13.4 inches and its weight to 44 pounds. But don't get too up-close and personal—it's noisier than many other laser printers and most inkjets.

Konica Minolta supplies the manuals (284 pages worth) on a CD; plan to spend about an hour wading through them before installing the drivers and

substitute and pay for two-day shipping both ways.

The bottom line. If you don't need to output large inkjet prints or use a variety of media surfaces, the 2430 DL prints sharp text, impressive double-sided brochures, and high-quality photographs more quickly and cheaply than any inkjet printer on the market today.—Arthur Bleich



COMPANY: Konica Minolta
CONTACT: 800-523-2696,
<http://printer.konicaminolta.com>
PRICE: \$499

REQUIREMENTS: G3,
USB- or Ethernet-equipped
Mac, Mac OS 10.2 or later

GOOD NEWS: High-quality photo output. Low cost per print. Very fast. Double-sided printing without bleed-through.
BAD NEWS: Noisy. Limited output-media types. No edge-to-edge printing. Removing a toner cartridge before it's empty ruins the cartridge.

MacAddict RATED
●●●●●
GREAT

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Commandos Battle Pack

CHALLENGING ACTION-STRATEGY GAME

The Commandos Battle Pack consists of two games, Commandos 2: Men of Courage and Commandos 3: Destination Berlin. These squad-based action-strategy games are challenging—even frustrating—so if your fuse is so short that you often take out your aggravation on your poor input devices, consider crocheting an iPod cozy instead.

In Commandos, you control an elite group of specialized soldiers charged with the task of throwing a wrench in Hitler's war machine during World War II—think of films such as *Where Eagles Dare* or *The Dirty Dozen*, and you'll get the idea. You start every mission with a well-balanced team of commandos, each with his or her own abilities and special uses. For example, to cross a barbed-wire fence, you can use the Thief to sneak to a telephone pole, climb up, cross an area with guards below, take out a guard on the other side of the wire, and grab some wire cutters so you can cut your way through. This will let the Demolitions Expert find and defuse land mines beyond the wire; then, the Green Beret can get close enough to take out a Nazi officer. Missions encourage experimentation, making for a fun sort of sandbox-gaming experience.

Mob mentality. Everything on a Commandos level interacts with everything else, which is often the source of frustration. Make one small false move, such as getting spotted by a guard (the enemy's field of vision is represented by a colored cone) or

Soldiers hit the beaches of Normandy in search of an Apple Store.

moving a smidge out of cover, and you'll find yourself knee-deep in Nazis or tagged by a far-off sniper. Save your game often—especially before you do anything risky. The in-game tutorials are far too short for such a complex game; you'll often find yourself reaching for the help button or—dare we say—reading the manual during play.

Commandos' online modes are weak, and only Commandos 3 supports the Mac multiplayer gaming service GameRanger (www.gameranger.com). Even then, you only have access to strategically underwhelming deathmatch and capture-the-flag games. The single-player game is where Commandos truly shines.

The bottom line. If you yearn for a strategic challenge and a game that will keep you on your toes, then this is it.—Matt Osborn

TIP

YO JOE!

Activate these cheats by pressing Caps Lock during a mission and typing GONZOANDJON in Commandos 2 or SOYINCAPAZ in Commandos 3. Then press one of the following key combos:

Command-Shift-N Complete the current mission.

Command-V Turn all of your commandos invisible. A red V appears in the portrait area of the screen.

Shift-X Teleport the selected Commando to where your mouse's arrow is pointing.

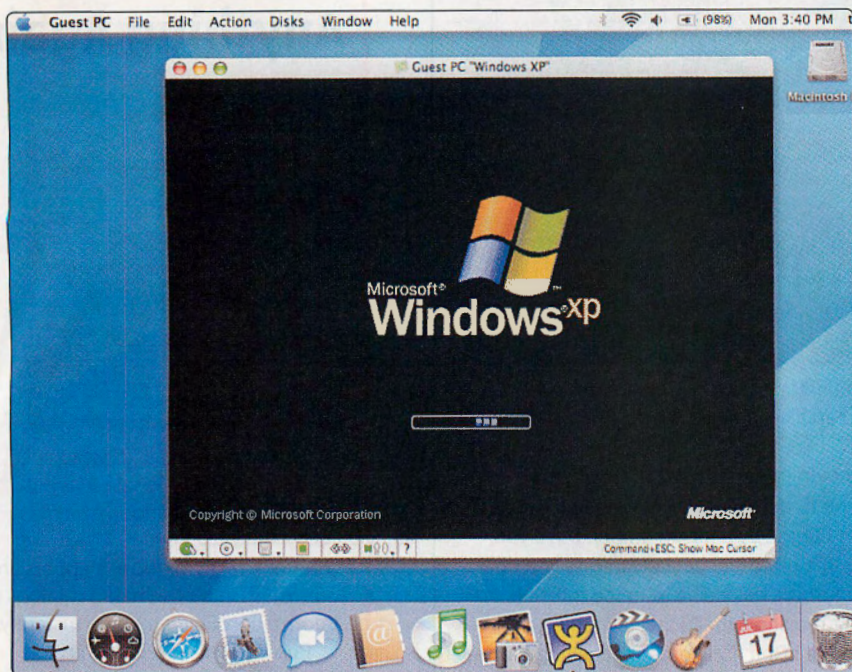
COMPANY: Feral Interactive
CONTACT: +44 208 875 9787,
www.feralinteractive.com

PRICE: \$50
REQUIREMENTS: 867MHz G3, Mac OS 10.2 or later,
256MB RAM, 32MB VRAM, 4.35GB disk space

GOOD NEWS: Two games in one. Awesome 2D graphics. Fun sandbox-play mechanics.

BAD NEWS: Frustratingly hard. Difficult learning curve. Mindless multiplayer mode.

MacAddict RATED
SOLID



Guest PC

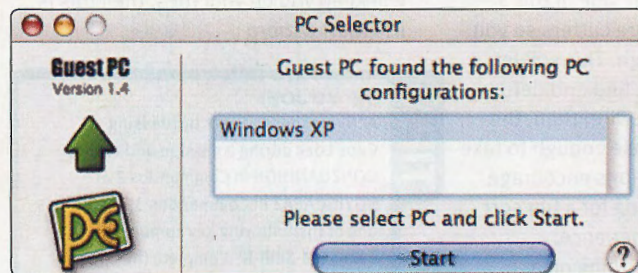
SLUGGISH-BUT-AFFORDABLE WINDOWS EMULATOR

Even if the times you need a Windows emulator on your Mac are few and far between, it's nice to know that Guest PC offers a less-pricey alternative to Microsoft's \$249 (\$129 sans Windows XP) Virtual PC for Mac Version 7 (MacWorld Feb/05, p37). However, you get what you pay for, especially when it comes to speed—and while we expected less-than-blazing performance in an emulator that's under 70 bucks, Guest PC is truly lethargic.

Guest PC's installation foreshadowed its sluggish performance—it took over two hours to install Guest PC and Windows XP Pro on our 17-inch 1.67GHz PowerBook G4 with 512MB of RAM, compared to the relatively snappy 25 minutes for Virtual PC. The difference between the two installation experiences was like night and day. With Guest PC, you install the emulator, and then you have to go through the complete installation of Windows, just as you would on a PC. With Virtual PC, you run the installer and never see the

Windows installation—both Virtual PC and Windows install magically, and you barely have to do a thing.

Guest PC doesn't come with Windows—gee, no wonder it's so affordable. To be accurate, Guest



Guest PC lets you install multiple versions of Windows—Linux, too.

PC is an x86 emulator, and it comes with DOS, so you don't have to install Windows. But if you do want Windows, you'll have to get your own copy (you can go back as far as Windows 3.1) and go through a channel other than Lismore, so tack on an additional \$299 for Windows XP Professional or \$199

Don't do Windows? Now you can with Guest PC—if you can stand the wait.

for Windows XP Home—suddenly, the savings go out the window.

Speed. Guest PC reported a processor speed comparable to 829MHz Intel Pentium

Pro CPU on our 1.67GHz PowerBook G4, while Virtual PC reported a 295MHz 686 processor—not exactly useful for comparison purposes. In order to gauge the difference in speed, we performed a variety of tasks using the same apps in both emulators and found Guest PC lagged behind Virtual PC considerably. For example, just launching Windows in Guest PC took 99 seconds, compared to 35 seconds in Virtual PC 7. When we ran the Windows XP animated tour, Virtual PC actually did a good job of running the animations and finished the introduction in under 3 minutes; Guest PC took a full 30 minutes to finish the intro, during which time the emulator struggled with the animations and produced audio with severe crackles and static. In fact, the same audio problems plagued all the multimedia files we ran. Everything we did with Guest PC reflected the same sluggishness; in small doses, the lack of speed is tolerable, but over a lengthy period of time, the slowness becomes unbearable.

Also, the version of Guest PC we looked at (1.5) doesn't have USB support. Lismore says that they're working on it for future versions.

The bottom line.

If using a Windows app is a regular part of your work routine, then you'd be better off with Microsoft's Virtual PC for overall speed and ease of use. However, if you rarely need to deal with Windows or DOS on your Mac, want the cheapest product available, and are willing to sacrifice speed, Guest PC works.—Roman Loyola



COMPANY: Lismore Software Systems
CONTACT: www.lismoresystems.com
PRICE: \$69.99

REQUIREMENTS: G3, Mac OS 10.3 or later, 256MB RAM, 2GB disk space, 1,024-by-768-pixel color display

GOOD NEWS: Attractive price.

BAD NEWS: Extremely slow performance. Windows not included. Audio crackling and static. No USB support.

MacAddict RATED





iControl

SASSY GARAGEBAND CONTROLLER

As much as you enjoy making noise on your Mac with GarageBand, we'll bet that using a mouse to twiddle the app's various onscreen knobs and switches just seems wrong. What you need is a hardware controller streamlined for GarageBand—something that puts the key track controls at your fingertips, along with a master-volume slider, playback controls, a scrubbing jog wheel, and enough buttons to provide instant access to eight individual tracks and their associated info, equalizer, and effects settings. Throw in a rear-mounted MIDI input, and you've got the iControl—all that the user needs to provide is a smattering of musical talent.

Hands on. As you may have guessed by the name, iControl is strictly a

controller—but don't discount it as a limited, GarageBand-centric toy. Like M-Audio's pro-music gear, the iControl is well designed all the way around: The track-volume knobs are perfectly responsive and turn with a click; similarly, the soft rubber buttons provide enough tactile feedback that there's no question whether you've pressed one or not. And the iControl is not strictly limited to GarageBand; you can also use it with Logic Pro.

The iControl's physical design is smart and sassy. Four rubber footies keep the device from traversing your desktop during particularly heavy jam sessions; and while we'd call the faux-wood side paneling "cheesy" in any other context, it perfectly matches

GarageBand maestros: Time to give your mouse hand a break.

GarageBand's interface. But one of our favorite things about iControl is an inconspicuous button labeled Option; it does absolutely nothing, but it's there to handle any new features that might pop up in future versions of GarageBand.

The bottom line. You probably don't need the iControl, and it probably won't make your GarageBand compositions sound any better, but it will spare your mouse hand miles of repetitive action. The fact that it makes you look like a bona fide audio stud is just the gravy.
—Niko Coucouvanis



COMPANY: M-Audio

CONTACT: 800-969-6434,
www.m-audio.com

PRICE: \$179.95

REQUIREMENTS: USB-equipped

Mac, Mac OS 10.3.4 or later,
GarageBand 2.0.1 or later

GOOD NEWS: Faux wood trim matches GarageBand. Way easier than making music with a mouse.

BAD NEWS: Only works with Apple's GarageBand and Logic Pro.

MacAddict RATED



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Photo to Movie™ incorporates a powerful version of the "Ken Burns effect" to bring photos alive with motion. Photo to Movie lets you add music tracks, voice narration, and a variety of slide-to-slide transitions. Export movies from Photo to Movie and use them in iMovie™, burn them to DVD, post them on the Web, or even email them.

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Gregg, Photo to Movie user



July 2005 issue



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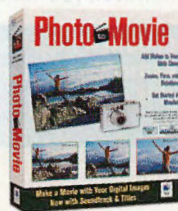


Photo to Movie

www.phototomovie.com

Flatron L2013P

GOOD-LOOKING LCD DISPLAY

While its silver plastic bezel may recall Apple's 20-inch Cinema Display (●●●●● Jul/03, p45) at first glance, the 20.1-inch Flatron L2013P isn't quite as elegant. Not that the L2013P is a bad-looking display—it's actually nicely designed. And the images it displays on its 1,600-by-1,200-pixel screen look good, too.

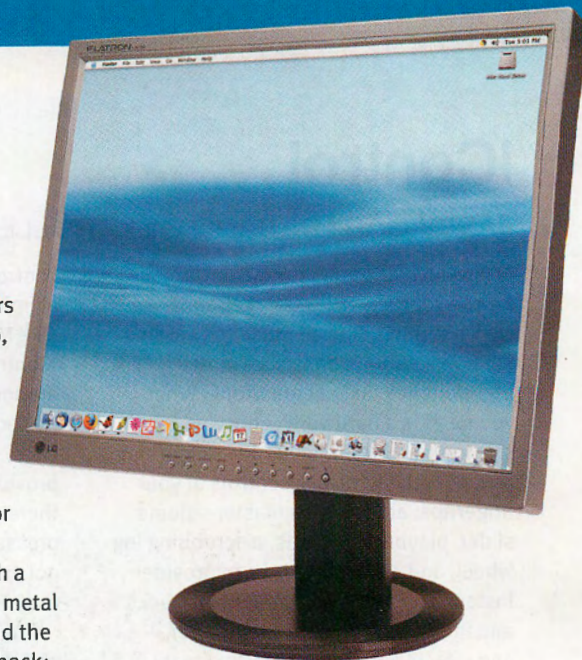
The Flatron's controls are located on the bottom part of the bezel rather than solely in onscreen menus—so much for minimalist style. The controls are easy to use, and a convenient Light View button provides easy access to two groups of brightness and contrast settings for viewing photos, text, or movies in the daytime or at night.

Color. We were quite impressed with

the Flatron's color quality—images were vibrant and rich, and the colors popped. Blacks were rich and deep, and text appeared crisp and clean. Movies looked good, too. We tried out all the different Light View image presets and found that each one displayed the intended media type (such as photos, text, or movies) adequately.

The Flatron comes equipped with a round, lazy Susan–like plastic and metal base, and you can adjust the tilt and the height. There are two ports on the back: one DVI and one VGA.

The bottom line. The Flatron is \$50 cheaper than Apple's 20-inch Cinema Display, but Apple's LCD is widescreen. Movie buffs may want to dish out



Color looks good on this LCD.

the extra cash, but the Flatron is an attractive choice for everyday use.
—Roman Loyola



COMPANY: LG Electronics
CONTACT: 888-466-3456,
<http://us.lge.com>
PRICE: \$749

REQUIREMENTS: DVI-equipped
Mac or VGA video out

GOOD NEWS: Good color vibrancy. Nice overall image quality.
BAD NEWS: Not widescreen format.

MacAddict RATED
●●●●●
GREAT

Thump

WEARABLE MP3 PLAYER

Oakley's Thump is sure to get you noticed, if not for the streamlined, ultra-chic shades, then for the MP3 player built into them. Yup, that's right, Thump is a wearable, flash-based MP3 player—and a pricey one at that. 256MB models range in price from \$395 to \$545 (for polarized lenses); 512MB nonpolarized versions carry a \$495 price tag.

In theory, the larger Thump holds about 60 songs; in practice, expect more like 50 at 128Kbps—more, of course, if you encode your tunes at lower bit rates. Thump doesn't appear in iTunes and won't play AAC files (protected or unprotected); instead, it mounts to the desktop through a USB connection (cable included) so you can drag and drop your MP3, WMA, WMA with DRM,



Future looking bright?
These shades even provide a
soundtrack.

and WAV files.

Controls are exceptionally easy to use. There are three buttons on the right over-the-ear piece for play/pause, next track, and previous track; two buttons on the left side control volume. You activate Thump's shuffle mode by holding down the next-track and previous-track buttons; otherwise, songs play in the order that they were copied to the Thump.

Fit. We found the Thump to be surprisingly light (under 2 ounces) and comfortable—if you don't like straight ear pieces, however, you should try a

pair before you buy. We also liked how the ear buds swivel in and out—convenient and comfortable. The sound quality is mediocre, though. In the upper frequencies, sound quality is a bit tinny. In the lower ranges, the Thump lacks significant bass response. In short, twang is twangier, and Foreigner's "Juke Box Hero" doesn't quite have the same ... thump.

These are shades, too, remember? Thump's lenses provide 100 percent UV blocking, and the impact resistance exceeds ANSI requirements—in other words, they're strong.

The bottom line. In a world of iPods and other MP3 players, the Thump stands out in the crowd. Don these shades, and you'll stand out too.
—Mary Tyler



COMPANY: Oakley
CONTACT: 800-431-1439,
www.oakley.com
PRICE: \$395 to \$545

REQUIREMENTS: USB-equipped
Mac, Mac OS 9.2.2 or 10.1.5 or later

GOOD NEWS: Stylish and cool looking. Comfortable.
BAD NEWS: Low capacity. Ho-hum sound quality. Expensive.

MacAddict RATED
●●●●●
SOLID

Cosmic Blobs 1.1

PLAYFUL KIDS' 3D-MODELING SOFTWARE

Cosmic Blobs isn't some cheesy, straight-to-video, sci-fi B movie; it's actually a neat 3D-modeling and animation app for kids (and the young at heart). We like it because it makes 3D so simple; all you need to bring to the table is a wild imagination.

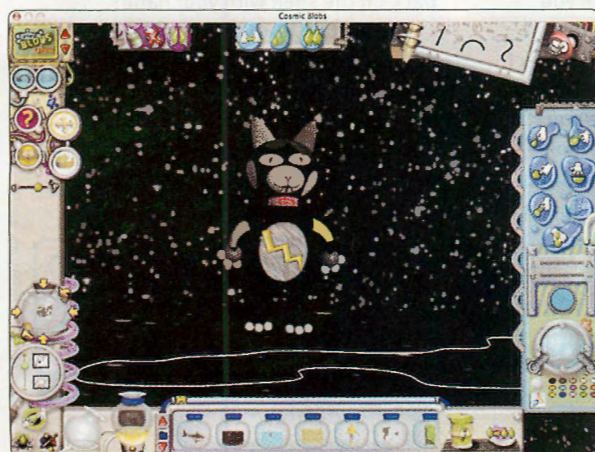
Cosmic Blobs' colorful interface is fun and easy to use. Cartoonish animated icons frame the main workspace and give you access to all the tools you'll need—no

textures, decals, and color to give your blob personality. Finally, Animation Mode lets you bring your blob to life with walk, run, or jump animations. You can lay a path to make it prance around your screen to some wacky music (17 loops are included). Each mode has its special tools, and it's a lot of fun just to play around to see what each one does—Cosmic Blobs offers plenty of levels of undo if something doesn't pan out.

In about an hour, we conjured up our own blob—Super Cosmic Kitty—and had him explore an outer-space background. If you need to adjust the location of the camera, just click and drag to the desired position. When you're ready to share your animation with the world, the process of making a little QuickTime video is quite simple: Go into Animate Mode, click the record button, and

your movie will render—a process that take a few second or a few minutes, depending on how complex the scene is (a full 15-second movie takes about 2 minutes). Unfortunately, you're limited to only 320-by-240-pixel resolution, and clips can't be longer than 15 seconds. (To see the output for yourself, check out Cosmic Kitty.mov on the Disc—we're quite proud of our Space Kitty.) There are also options to print and save in JPEG and VRML formats.

The bottom line. If you think your kid has a future as a Pixar animator, Cosmic Blobs is a great way to get started. And if you're not a kid, well, you'll probably have a blast too.—*Gil Loyola*



Watch out, Max! It's Cosmic Kitty, and he's in 3D!

need to navigate through pull-down menus. Each tool is accompanied by a quirky, cool sound effect. There are no keyboard shortcuts, however, which would have been handy for quickly rotating and zooming in on polygons for a perfect view.

One, two, three. There are three basic working modes in Cosmic Blobs. First is Creation Mode, in which you stretch, poke, bend, and then glue polygons together to form your blob (that's just SideWorks' goofy name for what high-

falutin' 3D experts call a 3D model). Next, it's time to dress things up in Decoration Mode by adding



COMPANY: SolidWorks
CONTACT: 978-318-5550,
www.cosmicblobs.com

PRICE: \$44.99
REQUIREMENTS: 1.33GHz G4, Mac OS 10.3 or later,
256MB RAM

GOOD NEWS: 3D for the rest of us. Fun and easy to use. Dashboard widget available for downloading new models.

BAD NEWS: No keyboard shortcuts. Limited movie-export features.

MacAddict RATED
GREAT

TuneJuice

HANDY IPOD BATTERY BACKUP

Let's get one thing straight up front about the TuneJuice: It's not an iPod battery charger; it's a supplement to your iPod battery. TuneJuice is powered by a nine-volt battery—you know, the kind you used to lick as a kid to feel your tongue tingle (we advise against doing this, by the way)—and it plugs into your iPod's Dock. That's it.

When you plug the TuneJuice into your



Stop licking those 9-volt batteries and use 'em to power your 'Pod.

dockable iPod, Griffin Technology says

you'll get an additional 8 hours of play if your iPod battery already has a charge; if your iPod batteries are drained, Griffin claims you'll get four hours of play. Our tests yielded slightly better results than advertised: On an iPod with a drained battery, we actually got just over 5 hours of play from the TuneJuice; with a half-drained iPod battery (or half-charged, for you optimists), we got an additional 8 hours, 15 minutes. Cool.

The bottom line. The TuneJuice is a cheap way to keep the music flowing.—*Roman Loyola*

COMPANY: Griffin Technology
CONTACT: 615-399-7000,
www.griffintechnology.com

PRICE: \$19.99
REQUIREMENTS: 9-volt battery, Dockable iPod

GOOD NEWS: Affordable. Simple design.

BAD NEWS: Doesn't charge your battery.

MacAddict RATED
GREAT

PHOTOGRAPH BY MARK MADEO

Disc Stakka

METHODICAL DISC-STORAGE SYSTEM

Disc Stakka is a carousel that holds and indexes 100 discs. No more sifting through piles of jewel cases—at least once you’ve entered the relevant disc info into the Stakka’s database.

The plastic Stakka measures 6.8 by 13.4 by 13.8 inches, so it takes up a good amount of desktop space. It connects to and draws its power from your Mac’s USB port, and you can stack up to five additional Stakkas on top of each other (they’re interconnected through pins located at the top and bottom of the unit, so you only need a single USB connection) for total storage of 500 discs. The Stakka doesn’t have an actual disc reader inside, however; it’s strictly meant for storage.

Stakka tracka. Stakka comes with

OpdiTracker software for your Mac, which lets you access the discs in the Stakka. When you insert a new disc, OpdiTracker launches so you can enter disc information to track it. If you want OpdiTracker to get the disc content and record the information itself, you have to remove the disc from the Stakka and insert it into your disc drive while OpdiTracker is open. When you want to retrieve a disc later, you launch OpdiTracker, locate the disc in OpdiTracker’s database, and click Eject. When you return the disc to the Stakka, OpdiTrack checks to make sure you really want to put it away. The whole process is more complicated than you might want—by comparison, it’s not all



Our AOL CD collection has found a new home.

that difficult to pull a disc off your shelf, take it out of its case, use it, and put it back on the shelf with your hands.

The bottom line. If you frequently need to access discs, or you’re sick of sifting through piles of discs and want to reclaim some office space, the Disc Stakka can help keep you organized. The rest of us will just spend \$30 on a disc rack.—*Roman Loyola*



COMPANY: Ivation

CONTACT: 888-466-3456,

www.ivation.com

PRICE: \$149

REQUIREMENTS: USB-equipped

Mac, Mac OS 10.1 or later

GOOD NEWS: Organizes your mess of optical discs. USB powered. Can stack up to five Stakkas on top of one another.

BAD NEWS: No built-in drive to read discs. Stakka can’t make initial disc identification for OpdiTracker.

MacAddict RATED



PHOTOGRAPH BY MARK MADEO

MediaPro 2.6.4

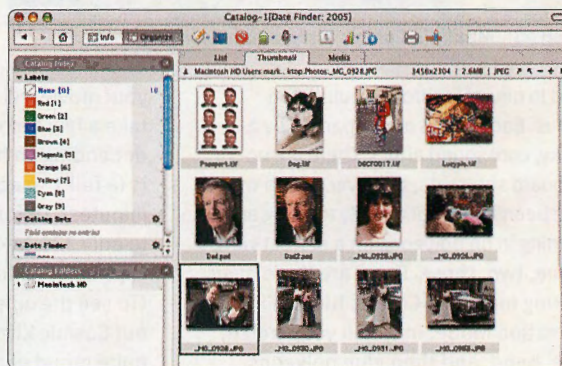
FLEXIBLE MEDIA CATALOG

IView’s MediaPro is a souped-up media manager that can also handle PDFs, fonts, sound files, and over 100 image formats (including RAW images taken directly from a camera). There’s no doubt that it’s very clever and extremely customizable.

MediaPro’s interface isn’t pretty (especially when compared to iPhoto), but what it lacks in beauty, it makes up in brains—there are endless ways to tag, label, and apply keywords to media stored in its catalog. You can create multiple catalogs, and your media can be spread across many storage devices—MediaPro has no problem remembering where a particular file is located. You can also edit images with its basic image editor; it’s not as nice to use as iPhoto’s

editor, but it does offer more options. If you want to edit images with other applications, then you can set a default application for opening different file types.

Do more. Where MediaPro really scores over iPhoto is in the number of formats and types of media that it can handle. Movies, sound files, images, and all manner of Mac file formats can be grouped together to produce an entire asset catalog. Once you’ve sorted and set up your catalog, you can use MediaPro’s export functions to create sophisticated slide shows, movies, PDFs, contact prints, and smart HTML galleries. Unfortunately, there’s



It doesn’t look glamorous, but organizing your stuff isn’t a glamorous job.

no integrated way to upload galleries to your .Mac account.

The bottom line. Compared to the cost of iPhoto (\$79 as part of iLife ‘05), MediaPro’s \$199 price tag is hefty. But if you’re overwhelmed by the media on your hard drive, it’ll be money well spent.—*Mark Sparrow*



COMPANY: iView Multimedia

CONTACT: +44 207 223 8691,

www.iView-multimedia.com

PRICE: \$199

REQUIREMENTS: G3, Mac OS 9.1

to 9.x or 10.1 or later, QuickTime 6 or

later, 8MB RAM, 13MB disk space

GOOD NEWS: Supports multiple file formats and export options. Smart HTML galleries.

BAD NEWS: Expensive. Dowdy-looking interface. No .Mac integration.

MacAddict RATED



Kill Monty

SIMPLE YET SATISFYING ACTION GAME

For those times when you just want to tap into your primal instinct to destroy everything in sight, there's Kill Monty—a nonstop, run-and-shoot action game that's all about getting your adrenaline pumping.

Kill Monty is based on Kill Dr. Coté (free, www.udevgames.com/downloads/?dlid=32). Both games are inspired by the arcade classic Robotron 2084, a game in which you use two joysticks: one to control your character and another to direct your line of fire. In Kill Monty, you use the keyboard to control your character and your mouse to fire. The controls take practice—it's like patting your head with one hand while rubbing your tummy with the

other. At first, you might tend to perform the same motion with both hands, but with time, you'll be able to move both controls independently.

The object: Stay alive in the arena while enemies swarm through entry points all around the perimeter. You can't escape; you just have to blast away anything that moves. The enemies don't stop, and every three rounds, you face a boss. Enemies drop weapon power-ups, and since each weapon acts differently, picking them up adds a new dimension to the gameplay.

Willing to pay? Kill Monty isn't much different from Kill Dr. Coté. So what more



do you get for your \$12.95? Though it's still a top-down 2D game, the graphics are more refined. You also get six arenas; Kill Dr. Coté has only one.

The bottom line. Kill Monty is a simple pleasure—just jump immediately into the action for quick satisfaction. (Editor's note: The soundtrack to Kill Monty was created by Andrew Tokuda, aka Digital Droo, a MacAddict Contributing Editor—and, no, that didn't affect our review.)—Roman Loyola



COMPANY: Freeverse
CONTACT: 212-929-3549,
www.freeverse.com
PRICE: \$12.95

REQUIREMENTS: 500MHz G3,
Mac OS 10.2.8 or later, 256MB RAM,
20MB disk space

GOOD NEWS: Fast-paced action. Simple game objective.

BAD NEWS: If you're into complexity, this isn't the game for you.

MacAddict RATED



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SoundSoap 2
Leaves even the
filthiest audio
sparkling
clean!



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Peak LE
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burn audio on
the Mac!

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Discover for yourself how easy and fun they are to use.
Check out the demo on the MacAddict CD or visit
www.bias-inc.com/downloads/freetrials



RocketFM

PRACTICAL FM TRANSMITTER

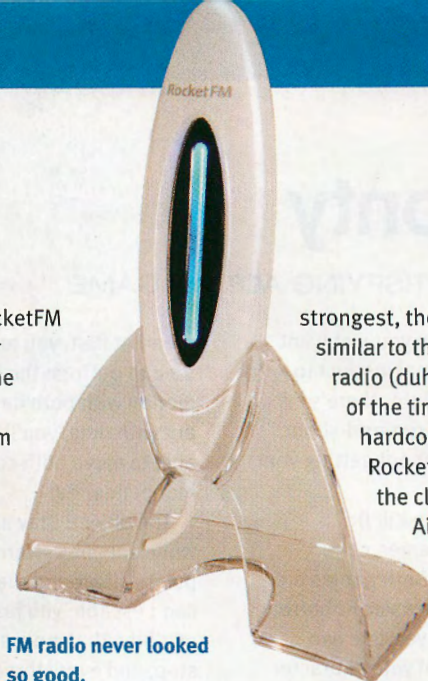
If you're still wrestling with the idea of paying over \$100 to play your Mac's music on your home stereo, the RocketFM may relieve the pressure on your pocketbook. The affordable RocketFM is an FM transmitter designed to work with your Mac (most FM transmitters available work with your iPod). You can use it to transmit songs playing in iTunes to an FM radio or receiver in your house—you can also take it to your next picnic and use it with your 'Book and a boom box, or cruise down the highway listening on your car radio.

You change the RocketFM's channel through software on your Mac, and you have the complete range of FM frequencies to choose from. When

we connected the RocketFM to the USB port of our PowerBook, we got the best results when we were in the same room as our FM receiver and within a 20-foot range—and that's in San Francisco's crowded airspace.

Leave the room.

Our results weren't as good when we tried the RocketFM with our desktop iMac in an adjacent room. We found fewer channels that could pick up RocketFM's signal; on the channels where the signal was



FM radio never looked so good.

strongest, the sound quality was similar to that of typical FM radio (duh)—acceptable most of the time, but not ideal for hardcore audio buffs. The RocketFM doesn't produce the clarity of Apple's AirPort Express

(●●●●○ Oct/04, p48) or Roku's SoundBridge M1000 (●●●●○ Feb/05, p46), but then again, it's also

not as expensive as either of those. **The bottom line.** Your success may be limited with Griffin's RocketFM, but the price is right.—*Roman Loyola*



COMPANY: Griffin Technology
CONTACT: 615-399-7000,
www.griffintechnology.com
PRICE: \$39.99

REQUIREMENTS: USB-equipped Mac, Mac OS 10.2.8 or later

GOOD NEWS: Attractive design. USB powered.

BAD NEWS: Limited range. Success depends on the clarity of your airspace.

MacAddict RATED
●●●●○
SOLID

irock Beamit 450FM

HIT-OR-MISS FM TRANSMITTER

The irock Beamit 450FM plugs into the audio-out jack of any 'Book, iPod, or other gadget, and transmits the sound to an FM radio. Find a vacant FM station on your radio, tune the 450FM to the same station, and you'll hear the audio from the device it's connected to. The 450FM uses a single AAA battery; it also comes with a 12-volt adapter so you can plug it into your car's power jack.

Not every available channel could play our sound clearly—sometimes we got static, and other times the audio was muffled. We were able to find four channels that worked well, but the 450FM unfortunately doesn't have a built-in way to set presets.

The bottom line.

The irock Beamit 450 worked—we just had to do a little hunting first.
—*Roman Loyola*



Make your iPod a radio star.

COMPANY: First International Digital
CONTACT: 847-202-1900,
www.myirock.com

PRICE: \$39.99
REQUIREMENTS: Audio-out jack.

GOOD NEWS: Can use any FM channel.

BAD NEWS: No presets. Short transmission range.

MacAddict RATED
●●●●○
SOLID

Flexible Dock for iPod shuffle

FLEXIBLE USB EXTENDER

Shufflers who own a CRT-based iMac or eMac know that despite the iPod shuffle's diminutive girth, it's just big enough that it doesn't fit into the USB ports of certain Macs. (A lot of flash drives have the same problem.) DLO comes to the rescue with its 7-inch gooseneck Flexible Dock for iPod shuffle. On one end, a petite USB socket plugs into your Mac without blocking any adjacent ports; the Flexible Dock's female end swivels 180 degrees so it's easy to position it pretty much any way you want. We also used the Dock to extend the reach of our Apple keyboard's USB ports, which are perpetually partially blocked by the junk on our desk.

The bottom line. We recommend the Flexible Dock to any eMac or old-school-iMac user.—*Niko Coucouvanis*



Some folks need this, but most don't.

COMPANY: DLO
CONTACT: 919-382-3227,
www.everythingipod.com

PRICE: \$19.99
REQUIREMENTS: USB-equipped Mac, iPod shuffle

GOOD NEWS: Prevents USB ports on certain Macs from being blocked by your shuffle.

BAD NEWS: Aside from the above, we can't think of many reasons why you'd need this.

MacAddict RATED
●●●●○
GREAT

Power Game Factory

ONE-NOTE GAME-CREATION KIT

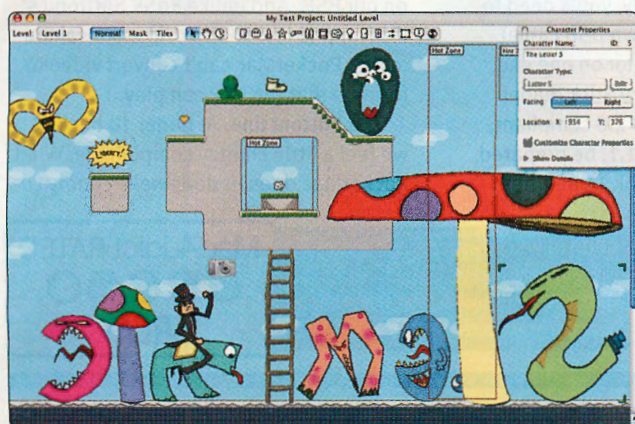
Power Game Factory does one thing and it does it well: allow you to create 2D side-scrolling shooters in the vein of Contra, Abuse, Metal Slug, and countless other alumni of the old school. But if you have dreams of elaborate role-playing games or Legend of Zelda-style top-down adventures, forget it.

Limited-dream machine. PGF's interface is superbly simple. A Level Editor lets you assemble backgrounds

enemies spawn new enemies when they die, or even link enemies to other objects (or other enemies) to create giant bosses with complex patterns and flashing weak points.

Be prepared to work within limits. Want to make a sword-wielding hero? Sorry, PGF deals only in projectiles—though with a little creativity, you may be able to come up with a workaround. We were able to fake a rudimentary

“whip” with short-range invisible projectiles and an animated tongue. Also, PGF comes with only a few pieces of Arctic-themed stock artwork—you have to create your own level art and character animation from scratch in other apps. PGF recommends BMP, GIF, PICT, PNG, PSD, Targa, and TIFF.



At last you can bring Abe Lincoln vs. the Alphabet to glorious life.

out of 64-by-64-pixel tiles or large graphics, and a super-simple Mask Editor lets you mark off solid ground and empty space anywhere you like. You can set up hot spots and event triggers throughout your levels to spawn bosses, open secret doors, and the like. Levels can also be linked back and forth through doors or via events, so you can create vast backtrackable “maps.” PGF’s stat-tracking, character-development, and power-up-creation capabilities are too limited, however, to create anything as complex as, say, Super Metroid.

Power-ups and traps. Physics and enemy A.I. can be tweaked to a satisfying degree; you can change the amount of pull that gravity has on projectiles, have

PGF’s help is great—handy tool tips pop up whenever you hover over just about any icon or object. But switching between the different Levels, Weapons, Items, and other modes is slow, and you occasionally come across strange design oversights. There’s no way to quickly determine X and Y coordinates for coordinating AI or event routines, for example, and you only get one Undo.

The bottom line. PGF provides the kind of simple, powerful tools you need to quickly and easily make a 2D side-scrolling shooter. If your ideal game involves more than just whizzing bullets and platform hopping, however, you’d be better off finding another dream factory.—Sean Molloy

COMPANY: Sawblade Software
CONTACT: 800-881-7256, www.sawblade.com
PRICE: \$44

REQUIREMENTS: USB-equipped Mac, Mac OS 10.2.6 or later

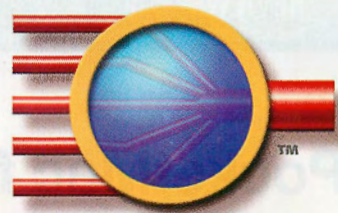
X

GOOD NEWS: Extremely simple to use. Versatile physics and AI systems. Games you produce can be sold royalty free.

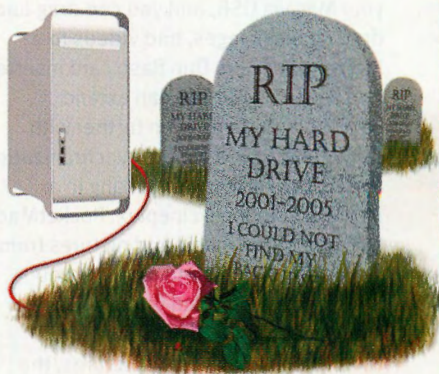
BAD NEWS: No stock art libraries. Limited to 2D shooters and 2D shooters only. Slow, somewhat quirky interface.

MacAddict RATED

SOLID



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PocketMac for PSP

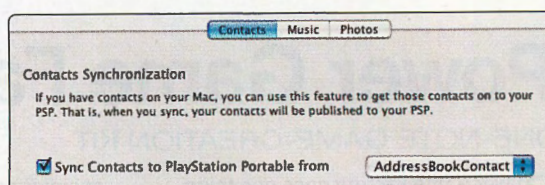
BARGAIN-PRICED PSP UTILITY

Sony's PlayStation Portable not only plays games, it also displays photos and plays MP3s and movies. Plug it into your Mac via USB, and you can drag and drop music, images, and videos to a Memory Stick Pro Duo flash card inserted into your PSP. But you can extend your PSP's abilities even further with PocketMac PSP, a simple synchronization app that costs less than taking in a movie at your local cineplex. PocketMac PSP syncs your music and pictures from iTunes and iPhoto, and also lets you transfer contacts from Address Book or Entourage to your handheld.

For syncing music and pictures, the app adds PocketMac folders to the Source panes of both iTunes and iPhoto.

Just drag and drop any photo or MP3 file (sorry, AAC files won't work) that you want to transfer to your PSP, then sync. To load your Address Book or Entourage contacts onto your PSP, PocketMac creates little JPEG images of your contact files and saves them on the PSP through its sync app. You can then view them on your PSP as you would pictures—handy if you don't feel like carrying around a PDA.

In sync. Unfortunately, you'll need to BYOUSB (bring your own USB cable) with a mini USB connector on one end, or you can use a Memory Stick reader instead. The PSP is USB 2.0 compliant, but if you're using USB 1.1, be prepared for slow transfers—it took 14 minutes



PocketMac PSP lets you take your Address Book or Entourage contacts on the go.

to move 224 addresses and 260MB of photos and music over USB 1.1.

One quirk: On our first sync, we accidentally loaded too many music files—but instead of giving us an error message, PocketMac plowed on, and we ended up with a bunch of corrupted files on our PSP. And unlike RnSK Softtronics' iPSP app (\$19.99, <http://ipsp.kaisakura.com>), PocketMac can't convert video to formats that the PSP can play.

The bottom line. At under 10 bucks, we feel a little chintzy complaining. What PocketMac does, it does well.—Cathy Lu



COMPANY: Information Appliance Associates
CONTACT: 866-762-5622,
www.pocketmac.com
PRICE: \$9.95

REQUIREMENTS: Sony PlayStation Portable, Mac OS 10.3 or later, 10MB disk space, USB-equipped Mac or Memory Stick reader

GOOD NEWS: Syncs contacts. Integrates with iPhoto and iTunes.

BAD NEWS: No video support. Doesn't issue a warning when you try to sync too many files.

MacAddict RATED
GREAT

iTop

HANDY IPOD-BUTTON RELOCATOR

Nyko's iTop is a set of controls that fits into the headphone jack on top of any full-size iPod (sorry, no shuffles or minis). It's a good way to access your 'Pod when it's in a case (if your iTop-equipped 'Pod still fits in the case), bag pocket, pants pocket, shirt pocket, or anywhere that keeps you from getting to the clickwheel. The iTop requires no software or trickery—just plug it in and it works. iTop even comes with its own headphone jack and Hold button, so you don't lose access to those controls. The only catch is that iTop doesn't feel as sturdy as the iPod.

The bottom line. Sick of losing 7 seconds of your life every time you slip your iPod in and out of its case? iTop will help.—Roman Loyola

Buttons, buttons, where to put the buttons?



COMPANY: Nyko
CONTACT: 310-446-6602,
www.nyko.com

PRICE: \$29
REQUIREMENTS: Full-size iPod or iPod photo

GOOD NEWS: Tactile buttons. Just plug it into your iPod and you're ready to go.
BAD NEWS: Doesn't feel as sturdy as the iPod it's attached to.

MacAddict RATED
SOLID

DecoDock

DECORATIVE IPOD SHUFFLE DOCK

For \$29, you can get Apple's iPod shuffle Dock, a plain, white, minimalist number. Or you can get the stylish DecoDock, a shuffle Dock with art-deco flair—it comes in Cobalt, Green, Obsidian, Pink, Silver, and White (for you traditionalists). The DecoDock even lights up, bathing your shuffle in a glorious white glow as it sits on your desk.

But the best part about the DecoDock can't be seen in the picture. It's the cap holder that rests behind a Docked shuffle—a simple little addition, but one that'll keep you from going insane as you tear your desk apart looking for your shuffle's cap. Another nicety: The DecoDock comes with a USB cable.

The bottom line. You don't have to like jazz to like the DecoDock. It's a nice Dock no matter what you're listening to.—Roman Loyola



Jazz up your shuffle.

COMPANY: Pressure Drop
CONTACT: 541-382-2197,
<http://pressuredropinc.com>

PRICE: \$28.99
REQUIREMENTS: iPod shuffle

GOOD NEWS: Nice, elegant design. Built-in cap holder.
BAD NEWS: There's no DecoDock for non-shuffle iPods.

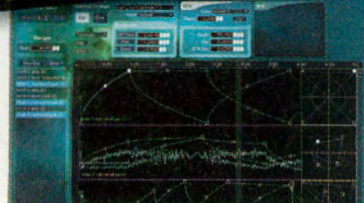
MacAddict RATED
GREAT

the HotList

THE BEST OF THE BEST FROM RECENT REVIEWS

SHOPPING?
HERE'S WHAT WE
RECOMMEND

NEW THIS MONTH



Absynth 3

If you aim to create bizarre aural landscapes and out-of-this-world sounds, check out what audiophile David Biedny calls an "awesome software synth from another dimension."



Final Cut Pro 5

Filmmaker and video-editing expert Helmut Kobler calls Apple's upgrade "a pro-caliber video editor in every respect," but warns that "its new features are more narrowly focused."

EOS Digital Rebel XT

Photographer Rick Oldano says that "Canon should be justly proud" of its latest camera; it's a "compelling reason to switch to a digital SLR."



Stylus Photo R1800

According to Reviews Editor Roman Loyola, "if you're a photo enthusiast who's willing to spend money for a printer that'll make you proud of your prints," then Epson's alluring inkjet "won't let you down."

SOFTWARE

AUDIO

Apple Soundtrack Pro	\$299.00	Sep/05, p40	This is our favorite component in the new Final Cut Studio suite.
Bias SoundSoap 2	\$99.00	Jul/05, p37	SoundSoap Pro's little brother is a capable audio cleaner.
Native Instruments Absynth 3	\$339.00	Sep/05, p45	This surreal electronic synth has great surround-sound support.

GAMES

Aspyr Doom 3	\$49.99	Jun/05, p48	Hellish, scary fun—but not for the faint of hardware.
Blizzard World of Warcraft	\$49.99	Apr/05, p40	This rich online role-playing game is more addictive than nicotine.
MacSoft Close Combat: First to Fight	\$39.99	Sep/05, p38	One of the most intense squad-based tactical shooters around.
MacSoft Unreal Tournament 2004	\$39.99	Jun/04, p48	The best first-person shooter adds new vehicles and weapons.

GRAPHICS & LAYOUT

Adobe InCopy CS2	\$249.00	Aug/05, p42	This workflow app amps up any InDesign team's productivity.
Adobe InDesign CS2	\$699.00	Aug/05, p40	A strong upgrade to the world's most feature-rich layout app.
Adobe Photoshop CS2	\$599.00	Aug/05, p38	A raft of new photo-focused features makes this upgrade rock.
Adobe Photoshop Elements 3.0	\$89.99	Mar/05, p36	Adobe's affordable image editor gets a significant upgrade.
Corel Painter IX	\$429.00	Feb/05, p38	This natural-media champ is now faster and more capable.

PRODUCTIVITY & UTILITIES

Bare Bones Software BBEdit 8.0	\$199.00	Jan/05, p36	By far the most powerful text editor money can buy.
FileMaker Pro 7	\$299.00	Jul/04, p46	A complete rewrite vaults this database into the big leagues.
Microsoft Office 2004	\$399.00	Aug/04, p42	Enhancements to every app add up to a worthy upgrade.

VIDEO & ANIMATION

Apple Final Cut Express HD	\$299.00	Jul/05, p32	This low-cost editor adds HDV support, Soundtrack, and LiveType.
Apple Final Cut Pro 5	\$999.00	Sep/05, p36	If you want to work with HD or multicamera editing, get this now.
Vidvox Grid2	\$75.00	Feb/05, p39	Join the VJ ranks with this MIDI-capable video-mixing software.

HARDWARE

ACCESSORIES

Apple AirPort Express	\$129.00	Oct/04, p48	This portable wireless router will stream your iTunes music.
Better Energy Systems Solio	\$99.99	Jul/05, p45	Use the sun to power your 'Pod with this gorgeous gadget.
Canary Wireless HS10	\$59.95	Apr/05, p44	This device finds hotspots and reports on network status.
Epson P-2000	\$499.99	Aug/05, p46	This media player's gorgeous display is a photographer's dream.
Palm Treo 650	\$699.00	May/05, p44	It's the best PDA-and-cell-phone combination on the market.

AUDIO & VIDEO

Mitsubishi HC100U	\$1,495.00	Aug/05, p52	This projector/screen combo is the perfect home-theater pair.
Native Instruments Guitar Rig	\$499.00	Nov/04, p40	Killer software plus a sturdy stomp box will wow any guitarist.
Sonos Digital Music System	\$1,199.00	Jun/05, p36	Pricy, yes—but it's the best music streamer you can buy.
Tivoli Audio iPal	\$129.99	Nov/04, p50	You won't believe the sound of this compact radio and speaker.

DIGITAL CAMERAS

Canon EOS Digital Rebel XT	\$999.00	Sep/05, p44	A compelling reason to switch from your old point-and-shoot.
Canon PowerShot A85	\$299.99	Mar/05, p40	This 4-megapixel point-and-shoot beauty takes great pictures.
Nikon D70 Digital SLR	\$1,299.00	Jul/04, p50	It's as close to perfect as any digital SLR camera we've seen.

PRINTERS

Brother International HL-2070N	\$169.99	Sep/05, p53	This affordable laser printer is great for text, charts, and graphs.
Canon i860	\$119.99	Sep/04, p29	This printer's Photo Black cartridge makes color photos pop.
Epson Stylus Photo R1800	\$549.00	Sep/05, p43	If you're a serious photog, this inkjet is worth every penny.

SCANNERS

Epson Perfection 4180	\$199.00	Oct/04, p39	Superior image quality earns this scanner our recommendation.
Microtek ScanMaker i320	\$119.00	Oct/04, p35	Killer photo-rescue software comes with this affordable unit.

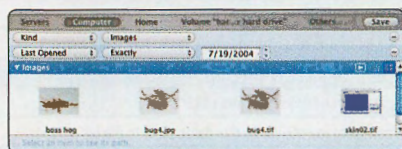
STORAGE

iLly SlimDVdup	\$699.00	Apr/05, p45	Quickly duplicate CDs and DVDs without tying up your Mac.
LaCie Big Disk Extreme 500GB	\$399.00	Aug/04, p55	Cutting-edge technology provides cutting-edge performance.
LaCie d2 DVD±RW Double Layer	\$179.00	Feb/05, p48	Cram 8.5GB of data onto DVDs with this speedy burner.
Sony DRX-710UL-T	\$229.95	Jun/05, p46	This double-layer burner has scorching single-layer performance.
WiebeTech G5Jam 1TB	\$1,249.00	Aug/04, p59	This internal 4-drive RAID makes a Power Mac G5 scream.
WiebeTech TrayDock	\$169.95	May/05, p49	This slick hard-drive enclosure provides the ultimate in flexibility.

ask us

STUPID SPOTLIGHT

Spotlight seems powerful, but what if I need to compare the results of multiple searches side by side? Can I add search criteria to limit the results?



Sorry Spotlight, I'm going back to Command-F.

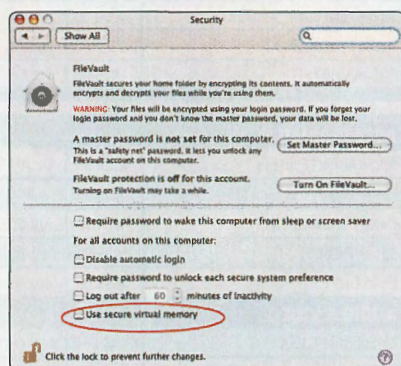
Spotlight is mighty powerful, but it also does a great job of hiding the handy features we all miss from good ol' Find (Command-F). But Command-F is still around—and more powerful than ever because it uses Spotlight's drive-indexing technology. To find things the way you want, ignore the Spotlight menu-bar icon and Spotlight's Command-spacebar shortcut; instead, do it one of the old-fashioned ways: Select File > Find from the menu bar, press Command-F, or simply enter your search term in an open Finder window's

search box. Now you can limit your search to specific locations using the top menu bar; you can also press the plus-sign icon to add limiting criteria (such as Kind, Last Opened, or Keyword). Then you can create more Finder windows (Command-N) or Control-click a folder and choose Open Enclosing Folder from the resulting Contextual Menu and perform more searches in new windows. Once the results come in, change the windows to List view (press Command-2) and sort at will.

SECURE WHAT?

What is Secure Virtual Memory, and why would I want it?

Virtual Memory helps your "real" memory (your installed RAM) work more efficiently. When you change tasks or open a new application while others are still open, the system moves files and data it doesn't immediately need from RAM into Virtual Memory—which is simply a file (often called a *swap*



If you're an Enron or Martha Stewart type, use Secure Virtual Memory to encrypt potential evidence.

file) on your hard disk. While all the data-swapping can make your Mac run more smoothly (RAM is about a squillion times faster than your hard disk), it also means a Unix-savvy creep might be able to raid your Virtual Memory (it's just a file on your hard disk, after all) for sensitive information. Paranoid? Open System Preferences > Security and check Use Secure Virtual Memory—a feature new to Mac OS 10.4 (Tiger)—to encrypt your swap file and keep it safe from prying eyes.

ISTINK

My iBook has developed a nasty smell—I'd say it's somewhere between body odor and cumin. So it smells like nature, but is this natural?

We've heard this one before; and unless a friend has secretly spilled something into your iBook (or rubbed it in his armpits), that's probably the smell of deteriorating plastic, adhesives, and the other fun chemicals that make up your Mac. Laptops generate lots of heat inside their little cases; over time, small components, such as plastic ribbon cables, adhesives, and other connectors start to break down (or even melt), often creating a lingering odor. To be safe, it's best to have a stinky iBook checked out by a service technician earlier rather than later.



Heat and time can join forces to create an odorous iBook.

quick answers

STEALTHY SPOTLIGHT

Can Tiger's Spotlight find data in a Photoshop file?

If you're wondering whether Spotlight can automatically identify pictures of your cat Muffins wearing that adorable purple hat, the answer is no—unless you assign keywords like *muffins* or

purplehat to your images. Spotlight can find all kinds of image info, including keywords, metadata from your camera, and even the names of a PSD file's layers.

NO PODCASTS FOR ME

iTunes 4.9's integrated podcast manager is swell, but I don't want it. Can I remove it from iTunes' Source list? Sorry, the Podcasts list is hardwired into iTunes 4.9, but you can remove the Party Shuffle and Radio lists if you like. Uncheck their boxes in iTunes > Preferences > General.

SENSING A THEME

Whatever happened to customizing the Mac's interface and appearance with themes?

Interface hacking is alive and well in Mac OS X. Check out www.macthemes.net for tons of information and downloads.

.SIT DOESN'T HAPPEN

What are these files with the .sit extension that I download to my brand-new iMac but can't open?

Once upon a time, every new Mac included a free utility called Stuffit Expander designed specifically for



No whining—
anyone
can do this!



It'll take some
effort, but you
can do it.



This stuff's
for the pros.

FINICKY PHOTOSHOP

On my Power Mac (running Mac OS 10.4), whenever I try to open a Photoshop file by double-clicking or dragging and dropping it onto the Photoshop CS or CS2 icon, it opens Photoshop but not the file. This used to work. What happened?

This happens on Tiger-running Macs when the Adobe Unit Types file is missing, broken, or has incorrect permissions. The file should reside in your Mac's /Library/ScriptingAdditions folder. Without this file, Photoshop behaves in just the way you mention. If you've updated to Tiger since installing Photoshop, and you used the Mac OS X Installer's Archive And Update option, you can find the file in /Previous System/Library/ScriptingAdditions. Copy it to /Library/ScriptingAdditions. Otherwise, fish it off of another Mac that has Photoshop installed—or have fun reinstalling Photoshop.



Without this file, Photoshop forgets what double-click means.

PRINT PARTIAL PAGES

In Mac OS X, is it possible to print just a chunk of selected text instead of the whole page in Safari?

We agree that this little trick should be built into Mac OS X—but it's not. All is not lost, however, if you use a dedicated third-party utility such as PrintMagic for OS X (\$25, on the Disc, or www.macease.com), which lets you print only the text

UNIX UNIVERSITY

THE SINGLES SCENE

What exactly is Single-User Mode in Mac OS X, and how can it help me?

Single-User Mode brings you closer to raw Unix than most people feel comfortable with. Single-User Mode forgoes all of Mac OS X's tasty icons and other Aqua eye candy, presenting you instead with a black screen, geekily glorious white text, and nary a pull-down menu, Dock, or double-clickable icon as far as the eye can see.

While Single-User Mode is clearly the domain of Unix geeks and other command-line jockeys, that doesn't mean it's not useful to regular human beings. It comes in handy when you're dealing with file-permission issues—like when a file you want to delete proclaims itself locked and untrashable. In the

old days (circa 2001), you could boot into Mac OS 9, delete the file, and move on, but today's Macs don't allow that. Instead, you have to resort to Single-User Mode. To enter this mystic mode, restart your Mac while holding Command-S. Once you get to the ominous black screen with white text, follow the onscreen prompts to either run fsck (a disk utility for checking your file system's integrity) or mount your Mac's file system to do some maintenance (to delete a locked file, for example, type `rm /stupid/file/that/wont/die`). When you've had enough Single-User fun, type **reboot** at the prompt, press Return, and you'll go back to OS X's lickable Aqua interface.

and image you select in any app. Most word-handling apps (including Microsoft Word, TextEdit, and BBEdit) give you the option to print only a selection in their print dialogs. Safari, however, does not.

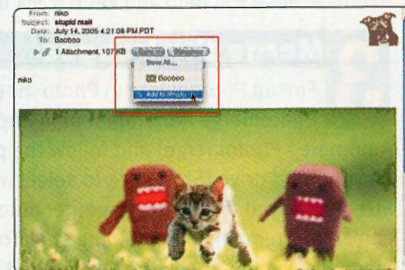


FILL UP iPHOTO

What are the different ways I can get image files into iPhoto?

There's always the old drag-and-drop; you can also use the timeless File > Import; but iPhoto 5 has some new tricks up its sleeve. You can drag a file (or files) directly onto the iPhoto Dock icon.

If you're using Tiger, you can right-click or Control-click an image in Safari and select Add Image to iPhoto Library from the Contextual Menu. If you've got Mail 2.0, you can also use the buttons next to an email attachment; either click and hold the Save button and choose Add To iPhoto from the pull-down menu, or press the neighboring Slideshow button and use the Add To iPhoto icon that appears while the slideshow is running.



Tiger's Mail gives you several new ways to send pictures to iPhoto.



Buz is a graphic designer living in Florida. He has been a devoted Mac user for over 10 years and has worked for both Apple and Power Computing.

opening these compressed SIT files, but those days ended when Mac OS 10.4 (Tiger) came around. But you can still get the free StuffIt Expander at www.stuffit.com/mac/expander.

WATCH ME NOW

I have an iMac running Mac OS 9, and I can't make the spinning watch icon go away—what's it mean?

Welcome to Crash City. Population: you. The spinning-watch icon is supposed to signal that your Mac is working but that it can't determine how much longer the current task will take. If it goes on

for a long time (that is, more than a few minutes), try force-quitting your apps (press Command-Option-Escape). If you're still watching the watch, hold down your iMac's power button for five seconds to shut it down, then restart.

SAY MY NAME

Can I change the name of my hard drive?

Sure. It's just like renaming any desktop icon: Click the icon to highlight the name, press Return, and start typing. If that doesn't work, and you're using Mac OS 9 or earlier, open the File Sharing control panel, press the Stop button, and retry.

Submit technical questions or helpful tips directly via email (askus@macaddict.com) or c/o MacAddict, 150 North Hill Dr., Ste. 40, Brisbane, CA 94005.

Another reason to love Photoshop Elements: Effortless panoramas.

Make Simple Panoramas with Photoshop EASY

By Tom Lassiter

WHAT YOU NEED

Mac OS 10.1 or later

Photoshop Elements (\$89.99, www.adobe.com) or Photoshop CS or CS2 (\$599)

Digital camera (or film camera and scanner)

From the Greek words *pan* ("all") and *horama* ("a view"), modern panoramographers use no end of custom gear and software to capture and stitch together super-wide-angle scenes. But you can crank out decent panoramas with just Photoshop Elements and any ol' digital camera (or even a film camera and scanner)—here's how.

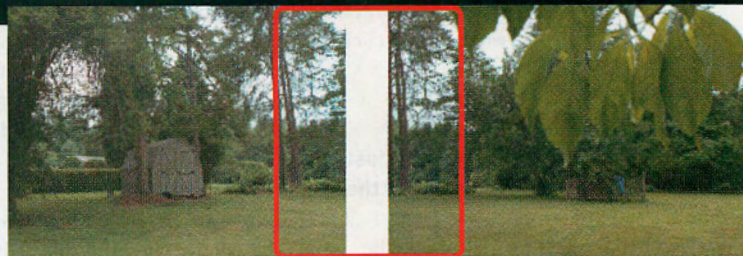
1 Set the Scene

First, set up your camera for a wide-angle shot; this means zoom out all the way on your point-and-shoot camera, or—if you're using a fancier camera with interchangeable lenses—use your widest-angle lens.

Look through your camera's viewfinder and pan slowly from left to right to preview the scene. Don't use the camera's LCD—it's easier to keep the camera steady while holding it up to your face than it is holding it away from your body.

2 Shoot the Shots

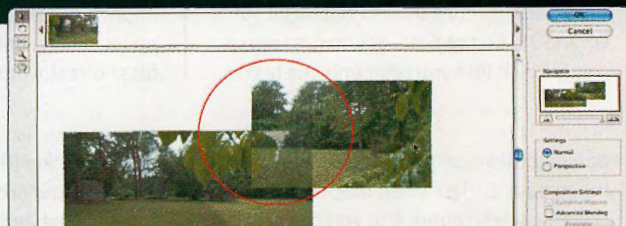
Capture the far left side of your scene in the first shot; keep the camera level and pivot your upper body slightly to the right until about 30 percent of what you captured in the first shot remains in view. Snap the shutter and repeat, making sure there's about 30 percent overlap between each shot, until you've captured the entire scene. Download the shots to your Mac, and keep the files' camera-assigned numerical names—those will help you keep track of everything.



As you shoot, don't skimp on the horizontal overlapping.

3 Merge the Images

Fire up Photomerge in Photoshop Elements (File > New > Photomerge Panorama) or in Photoshop CS or CS2 (File > Automate > Photomerge) and follow the prompt to select images on your hard drive (Shift-click to select multiple files). Photomerge attempts to put the photos together automatically; images that it can't place remain in the holding shelf for you to drag in and place manually. Finally, check the box labeled Keep As Layers and click OK to create a Photoshop file with each source image on its own layer.

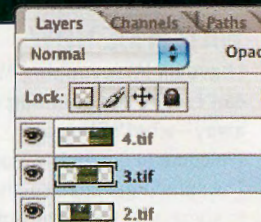


Photomerge's translucent views help you fine-tune the alignment.

4 Wrap It Up

After Photomerge drops you back into Photoshop with your panorama, bring up the Layers palette (Window > Layers or press F7). Select the layers one by one and, if you're using Elements, select Enhance > Adjust Lighting > Brightness & Contrast (Photoshop CS and CS2 users select Image > Adjustments > Brightness/Contrast or Curves) to even out the brightness.

When you're satisfied with the brightness and contrast, you'll probably need to crop the full scene to cut off the uneven edges. Flatten the image (Layer > Flatten Image) and select the Rectangular Marquee tool from the toolbar. Click and drag to select what you want, then select Image > Crop to do the deed. Presto! Just like that, you've got yourself a panorama—but if you're looking for a cooler way to get panoramic, turn to page 59.



Keeping layers makes final adjustments a snap.

Make Better Panoramas with PTMac

By Tom Lassiter

WHAT YOU NEED

Mac OS 10.1 or later

PTMac for OS X 3.0
(\$49.95, on the Disc, or
www.kekus.com)

Digital camera (or film
camera and scanner)

TIP

KNOW YOUR NODAL

When you get serious about panoramas, you'll want to find your camera's nodal point: Shooting a perfect pano requires that your shots rotate around the camera's nodal point—not its tripod mount. Panorama Factory has a terrific tutorial on finding the nodal point at www.panoramafactory.com/camera_setup/setup.html.

Merging a few photos into a panoramic scene (see “Make Simple Panoramas with Photoshop,” p58) is fun, but not as much fun as rolling them into a QTVR (QuickTime Virtual Reality) file that lets you look around 360 degrees of spherical space in a QuickTime Player window. Creating such a beast requires lots of tedious image stitching, blending, and remapping, along with the voodoo of fixing various flavors of image distortion and chromatic aberration—and that's with our secret time-saving software, PTMac.

Before you begin, you'll need a series of images (JPEG or TIFF only) you want to panoramize—a series shot in left-to-right progression that covers a full 360-degree horizontal circle, plus one straight up (the *zenith*) and one straight down (the *nadir*) shot. Keep the camera-assigned file names—they'll help PTMac assemble the scene later. If you're not in the mood for taking your own shots right now, you'll find everything you need to follow the steps in this how-to (including an image-parameters template for step 4) in the PanoProject folder on this month's Disc.

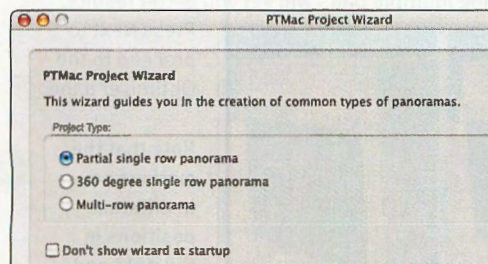


\$50 worth of software makes stitching interactive, panoramic QuickTime VR scenes like this a snap—well, maybe not quite a snap.

ON THE DISC
PTMac for OS X 3.0; PanoProject folder with images, template, and final QTVR file.

1 Meet the Wizard

When you launch PTMac, the Project Wizard opens by default. (Don't worry, you can opt out of the Wizard as you get more familiar with the app.) First, tell the Wizard what type of panorama you're looking for: a partial single-row (like a broad mountain vista); a 360-degree single-row (all the way around); or a multi-row, which requires custom gear and many more source photos taken at additional angles. You can add an up (zenith) and down (nadir) shot to the single-row panorama to make a basic sphere—which is what we're going to do in our example—so select 360 Degree Single Row Panorama and click Next. On the following screen, choose Equirectangular to make an immersive-cubic (spherical) pano out of our sample images from the Disc. (Pick Cylindrical if you don't want to use the zenith and nadir shots.) Click Next to feed PTMac the source images.

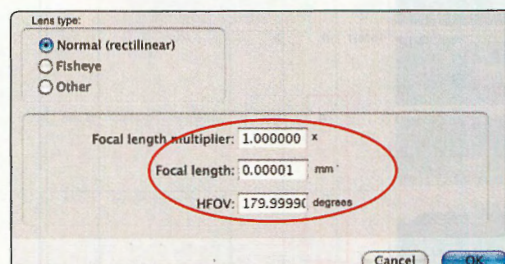


We're generally not big on quick-start wizards, but PTMac's is actually helpful.

2 Ditch the Wizard

Click the Load Images button and locate the image files on your Mac; Shift-click to select all of the files you want to use in your panorama, and click Open. As PTMac's main project window imports the images, the Lens Data window appears, prestocked with the appropriate Lens Type, Focal Length, and HFOV (horizontal field of view) information—hopefully. PTMac misread the EXIF data from some of our digital cameras, but if that happens to you, no need to fret: You'll tweak the data manually in the next step. (A good FOV calculator might help; we like Frank van der Pol's at www.frankvanderpol.nl/fov_pan_calc.htm.)

From here on, the Wizard only complicates things, so click OK in the Lens Data window, and press the Wizard's Next button; ignore the next screen and close the wizard—we'll finish up in PTMac's main window.

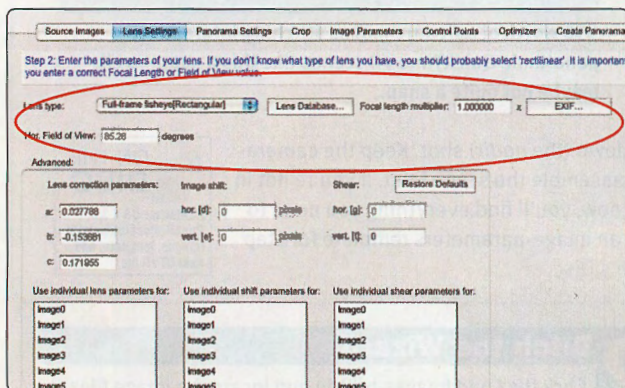


Obviously, PTMac is misreading our EXIF data—we don't have a 0.00001mm-focal-length lens.

3 Verify More Settings

Now that you're done with the Wizard, save your project (Command-S) and press the Next button to proceed to the Lens Settings pane, where the Lens Type and other info from the Lens Data window should be preloaded. If the data isn't there (or if it seems wrong), press the EXIF button to change the values for Lens Type, Focal Length Multiplier, and Hor. Field Of View. Kekus provides a free database of common cameras and lenses called LensFix (www.kekus.com/download) that hopefully contains the numbers you need. Whether you download the database or not, you can save your camera's info for future reference; just click the Lens Database button and go to the Save Into Database section.

Once the proper info is entered, click Next to proceed to the Panorama Settings pane; Horizontal Field Of View should be set to 360, Vertical Field Of View should be set to 180, and Projection should be set to Equirectangular. Click Next to proceed to the Crop screen, and click the No Crop and Apply To All Images buttons (unless you shot with a circular fisheye lens; we didn't). Click Next and roll up your sleeves—the easy part is over.



We found our camera's correct EXIF information using Photoshop's File > File Info.

5 Pitch-er Perfect

Pitch is the camera's up or down angle relative to the horizon, so enter 0 in the Pitch column for images 0 through 5. Enter a Pitch value of 90 for the zenith and -90 for the nadir. As with the Yaw column, you have to press Enter or Return to lock in each value. You can ignore the remaining columns. Click Next to proceed to the Control Points pane.

No.	Image	Warped	Yaw	Pitch	Roll	Lens type	fov
4			-120	0	0	Full-frame fisheye (Rectangular)	85.2796
5			-59.8654	23	0	Full-frame fisheye (Rectangular)	85.2796
6			0	-90	0	Full-frame fisheye (Rectangular)	85.2796
7			0	90	0	Full-frame fisheye (Rectangular)	85.2796

It's simple, really; 90 degrees up to the zenith and 90 degrees down to the nadir.

4 Set the Yaw, Y'all

In the Image Parameters pane, you'll see your shots arranged alphanumerically, complete with a mini view of each frame and its relative placement in the finished pano. Now you'll need to do some math to tell PTMac how to properly position your images around 360 degrees. Do it right, and you've got the beginnings of a template for future projects. (Or if you're lazy, just select File > Apply Template and navigate to our template in the PanoProject folder on the Disc).

Yaw is the amount of horizontal camera rotation between shots. In our example, 360 degrees divided by 6 shots equals 60 degrees, so your images should be spread around in 60-degree increments. Image number 0 is the starting point, so enter 0 in the Yaw column. For image 1, enter 60. For image 2, enter 120, and so on, pressing Return or Enter after each entry to lock in each value. Once you reach the midpoint (180 degrees), PTMac automatically converts your entries to their negative equivalents (remember, in a circle, 360 degrees is the same as zero). For the zenith (up) and nadir (down) images, leave the Yaw at zero.

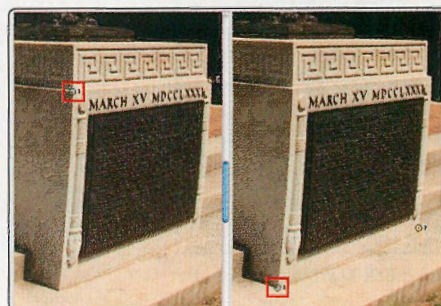
No.	Image	Warped	Yaw	Pitch	Roll	Lens type
0			0	0	0	Full-frame fisheye
1			60	0	0	Full-frame fisheye
2			120	0	0	Full-frame fisheye
3			-180	0	0	Full-frame fisheye
4			-120	0	0	Full-frame fisheye

Math isn't so hard—but you can skip this part by applying our template.

6 Straighten the Gate

Now it's time to set control points to help PTMac align vertical elements; this helps it fix optical aberrations such as lens distortion and mismatched perspectives. Use the pull-down menus above each preview area to load the same image in both of the preview areas. Choose an image with strong vertical lines—such as the edge of a building, a doorframe, or some other architectural feature—near the center of the photo, where there's less distortion. (If you're using our samples, choose Image0, featuring the historical marker.) Click the padlock icon to sync scrolling between the two frames.

In the left-side preview, click to place a control point on the upper end of the vertical element; then in the right-side preview, click to place a control point at the lower end of the same vertical element, as shown in the screenshot below. Precision is key here, and setting multiple pairs will get you better results.



Press Next to proceed to the Optimizer pane.

Note that the markers are in different positions in the right and left previews—that's key.

7 Optimization Station

In the Optimizer pane, press the Clear All button under each section to remove any check marks. Now, in the Pitch, Roll, and Use Control Points Of sections (but not Yaw), click to place checkmarks beside your anchor image from the previous step. Click the Run Optimizer button. After a moment of crunching, PTMac returns three control-point-distance numbers for your approval. If all the numbers are less than 1 (0.7565, for example), click OK. Otherwise, click Cancel and go back to the Control Points screen to tweak the placement of your points—you need to get them as much on the same vertical line as possible. Run the Optimizer again until the results are less than 1. This image will become the anchor for the entire

panorama.

Remember, accurate control points make for a tightly stitched panorama—make these numbers as small as possible.

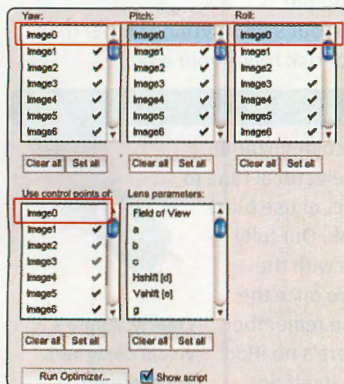
9 Optimize, Rinse, and Repeat

Now click Next to go to the Optimizer pane for more fine-tuning. Click Set All under the Yaw, Pitch, and Roll areas. Then click to remove the check beside your anchor image (Image0 in our example case) in all three panels. This ensures that the image keeps the settings you established in steps 6 and 7 and becomes a reference for the other images. Also remove the checks from the nadir (Image6) and zenith (Image7)—you'll work with them in a moment. Click Run Optimizer and wait for PTMac to return the minimum, average, and maximum pixel distance between your control-point pairs. If these numbers are below 1, proceed to step 10; otherwise, click OK to go to the Lens Parameters panel, where you can continue optimizing and tweaking the settings.

In the Lens Parameters panel, you only need to work with the first four criteria (Field Of View, A, B, and C), but it's more art—and maybe a little voodoo—than science. The following procedure worked for us: Select Field Of View and click Run Optimizer; then, with Field Of View still selected, select B and click Run Optimizer again. If the panorama gods are smiling, you'll see the resulting numbers shrinking below 1. If not, try optimizing with different combinations of Field Of View, A,

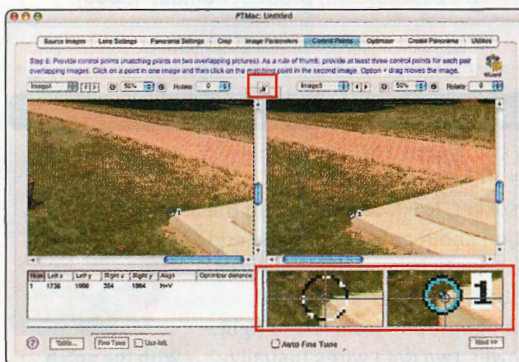
B, and C checked. (You can cancel results if the numbers start to move in the wrong direction.) If you can't get the Optimizer's numbers below 1, go back to Control Points and fine-tune the placement some more, then do the magic Optimizer dance again.

This time, leave Image0 alone—it's the anchor.



8 Point, Control Point

Now it's time to place control points identifying common elements in each pair of adjacent images. Pull up Image0 in the left window and Image1 in the right window. Now find an area of overlap that exists in both photos, and set control points on identical features in that overlapping area (in our example photos, we chose the corner of the concrete rise). Check Auto Fine Tune to ask PTMac to help match the points. Place at least three sets of control points before moving to the next pair of images, and remember to place control points in the overlap between the last frame and the first frame—in our six-around setup, that means three matching points in Image5 and Image0. For a spherical panorama, you'll also need to match the up and down shots—place at least three control points in the zenith (up) shot to correspond with tall features in one or more of the horizon shots. (If the up shot is all sky, you don't need any control points.) Follow the same process for the nadir (down) shot.



Click the padlock icon to unsync window scrolling, then match common elements from the right side of the left-side frame with ones from the left side of the right-side frame.

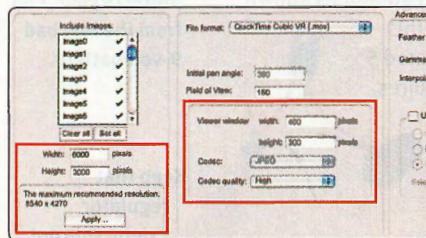
10 Wrap It Up

When all of your control-point-pair differences are within a pixel of one another (that is, all the magic numbers are less than 1), click to add a checkmark for the nadir image (Image6) and optimize. Then add a check for the zenith image (Image7) and optimize again. Now you're ready to finish this puppy off.

Click Next to go to the Create Panorama pane, and select QuickTime Cubic VR from the File Format menu to make your interactive, user-navigable movie. You can export in a variety of formats, such as a layered PSD for further fine-tuning of your frames and stitches—but once you do that, you'll need a utility called Make Cubic (free, <http://developer.apple.com/quicktime/quicktimeintro/tools>) to turn that PSD into a QTVR movie. It's totally self explanatory; just be sure to flatten the layered PSD

file before making it cubic.

PTMac's suggested sizes for flat-file output (left) and QTVR movies (right) are spot on.



Power Your iPod with a 9V Battery

TRICKY

by Niko Coucouvanis

WHAT YOU NEED

Soldering iron

Lots of 9-volt batteries

Electrical tape

5-volt fixed-voltage regulator LM7805 (\$1.59, www.radioshack.com, catalog number 276-1770)

9V-battery snap connector (\$1.99 for five, www.radioshack.com, catalog number 270-325)

USB-A-female-to-USB-A-male extension cable (\$6.99, www.cablestogo.com, product number 19003)

Eat your heart out,
MacGyver.



Warning! This hack could wind up frying your precious iPod for good. Perform at your own risk!

When your iPod runs out of juice and there's no Mac or AC outlet in sight, where do you turn to for power? How about a 9-volt battery? This hack is designed for the iPod shuffle, but it works on any model iPod—just BYO USB-to-Dock connector cable.

1 Suss the Socket

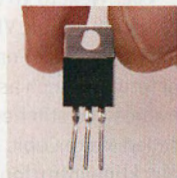
First, completely sever your USB cable about 2 inches from the female USB socket. Next, carefully strip the outer insulation about an inch from the end of the resulting stub, freeing the four wires within. Most USB gear uses a standard wire-color configuration—from left to right, it's red for power, two data wires (usually white and green), and black for ground. You can ignore the data wires; the ones you're interested in are the red (power) and black (ground). Next, strip the protective coating off the very ends of the power and ground wires, exposing about a quarter inch of wire, and get out your soldering iron.



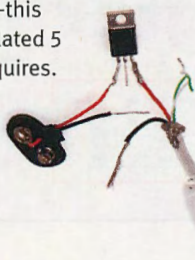
With the notch down, power is on the left, ground is on the right.

2 Nine Volts in, Five Volts Out

Now that you've identified the wires that lead to the power and ground pins, it's time to connect the LM7805 5V regulator (Radio Shack catalog number 276-1770) and battery snap connector (Radio Shack catalog number 270-325). With the regulator oriented with the printing facing you as shown in the photo (right), solder the battery connector's red wire to the left pin of the regulator—this pin is for the positive input from the 9V battery. Then, solder the red power wire from the USB connector to the right pin of the regulator as shown in the photo (below)—this pin provides the regulated 5 volts that the iPod requires. Note that if you wire the regulator backward, you'll likely fry your iPod (like we did ... oops).



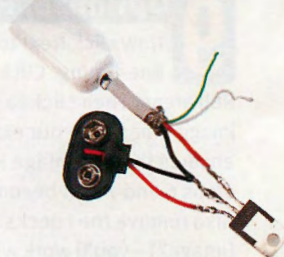
The regulator protects your 'Pod from the big, bad 9-volt battery.



Keep that regulator right-side up!

3 Ground All Around

Now take the black ground wires from both the USB cable and the battery connector and solder them together to the regulator's center pin. Be careful not to bridge any of the pins with sloppy soldering—that'll short out the whole rig and potentially cause disaster. To keep the various pins and wires from touching one another, wrap the regulator pins and exposed wires with electrical tape.



Test it, wrap it up, and you're ready to rock.

4 Testing, Testing

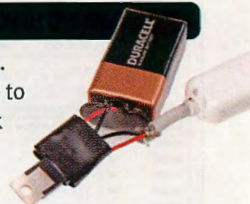
If you're paranoid (or just happen to have a multimeter handy), check your power output before letting this crazy contraption near your precious 'Pod. Just set your multimeter to measure low voltage and poke at the USB socket's power pin with the red probe while poking the USB socket's ground pin with the black probe. If the readout says anything higher than 5V, check your connections—or risk frying your iPod.



If it clocks higher than 5V, turn back now!

5 Wrap Up

This step is up to you: customization. Wrap the unit in white electrical tape to complement the iPod aesthetic, or use black tape for a more-dangerous look. Our fully drained shuffle ran for 3 hours with the 9V battery attached and 5 more once the battery was disconnected. Also remember to detach the battery when there's no iPod connected, or it'll slowly drain itself dry.

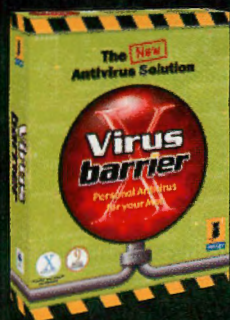


Clearly, Apple's visual designers are overpaid.

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the best antivirus software?
Oh, well...

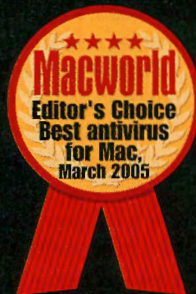
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Make Time with QuickTime Pro

EASY

by Niko Coucouvanis

WHAT YOU NEED

Mac OS 10.3.9 or later

QuickTime Pro 7.0.1 (\$29.99,
www.apple.com)

When it comes to QuickTime 7, what reason is there to go Pro? You've already got the basic version; it's free and it works just fine. You might even have QuickTime 6 Pro installed—so why spend another \$29.99 to upgrade to QuickTime 7 Pro? After a little digging, we found that you get quite a bit for those three sawbucks.

Rotate a Tot

So you set your digital camera to its movie mode to capture a precious moment; but out of habit, you turned the camera sideways into portrait mode to frame the scene. Now you've got a cockeyed movie and a kinked neck from having to view it in such an unnatural fashion. To rectify this rectilinear travesty, select Window > Show Movie Properties, highlight the video track, and click the Visual Settings tab. The resulting pane lets you adjust the movie's size, flip it, rotate it, or even mask it for blending and transparency effects.

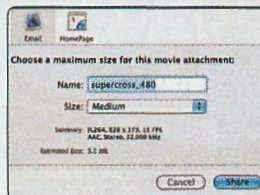


QuickTime 7 Pro lets you twist the movie instead of your neck.



Share and Share Alike

Apple is all about sharing (unless you're talking about copyrighted material), so it's no surprise to find the new Share command (File > Share). Compared to figuring out QT Pro's 100-plus supported file formats, Share requires no brainpower whatsoever. Just go to File > Share and select Email for direct-delivery sharing or HomePage to shuttle the movie directly to your iDisk and onto a new movie page. For Email, your choices are limited to Actual Size, Small, Medium, and Large. For HomePage, pick Actual Size or Automatic (MPEG-4 at 240 by 180 pixels).



Just like mom said—everything's better when you share.

Track Tricks

QuickTime 7 provides basic authoring tools for combining movies, placing a picture in a picture, replacing a soundtrack, or adding voiceover tracks (complete with time-synced audio and video). To replace a movie's audio track, open the movie and select Window > Show Movie Properties. In the Properties window, highlight the track you want to remove and click Delete—or, if you want to jettison the track into a new player window, click Extract. (This would be one way to get the music from a performance video into iTunes, for instance.)

To add an audio or video track to a movie, open both files in QuickTime Player. Use the Player's In and Out markers to

Capture the Moment

If you want to capture video via your connected iSight or other Webcam, just go to File > New Movie Recording. If you want to capture audio with either your Mac's built-in mic or an external one, select File > New Audio Recording. In the resulting capture window, just press the big red button; the numbers on the left keep track of your recording's running time, while the numbers in the lower-right corner show how big the clip will turn out to be in megabytes.



It used to cost big bucks to add A/V capture to a Mac (circa 1998).

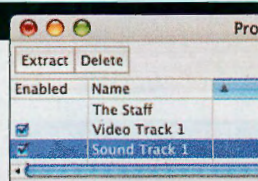
Perfect Playback

QuickTime 7 Pro enhances your movie consumption with marquee features like full-screen playback with full surround-sound support for your multichannel speaker setup. To view your movie in full-screen mode, select View > Full Screen (or press Command-F); to access the playback controls, simply wiggle your mouse. By default, the controls vanish after 2 seconds of mouse inactivity, but you can change that by opening QuickTime Player > Preferences, clicking the Full Screen tab, and unchecking the box labeled Display Full Screen Controls. You could also go to the other extreme by leaving the box checked and selecting Never from the Hide After pull-down menu.



Full-screen mode and a floating controller—what is this, DVD Player?

select part or all of one clip, then select Edit > Copy (Command-C). Now switch to the target movie's window, move its In and Out markers to where the new material should go, and select Edit > Add To Movie to lay on the track—if it's a video track, it'll appear on top of the existing movie. If your two source files are nearly the same length, use Edit > Add To Selection and Scale to tweak the added track's duration to match the host's.



If you like a track, extract and reuse it; if you don't, press Delete.

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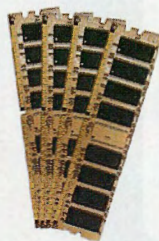


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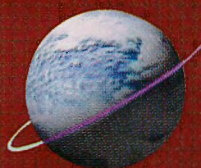
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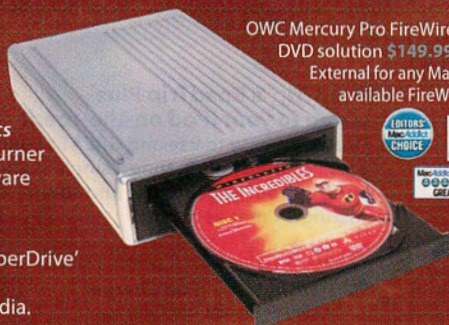
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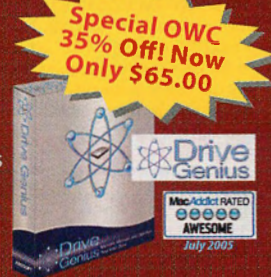


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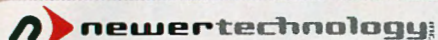
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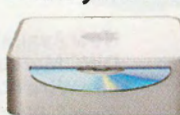
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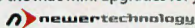
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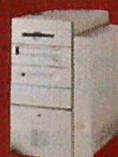


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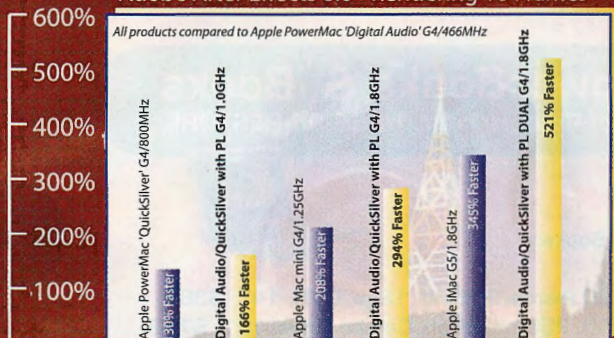
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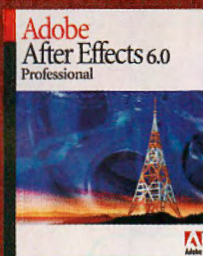
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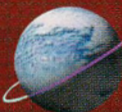
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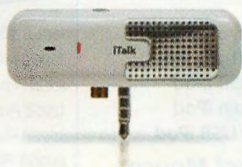
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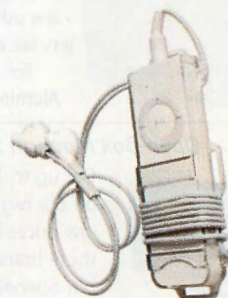
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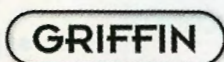
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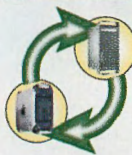
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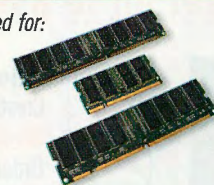
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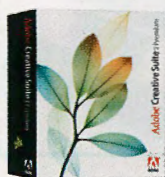
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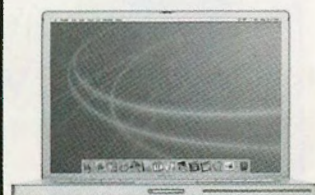
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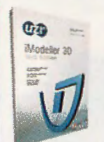
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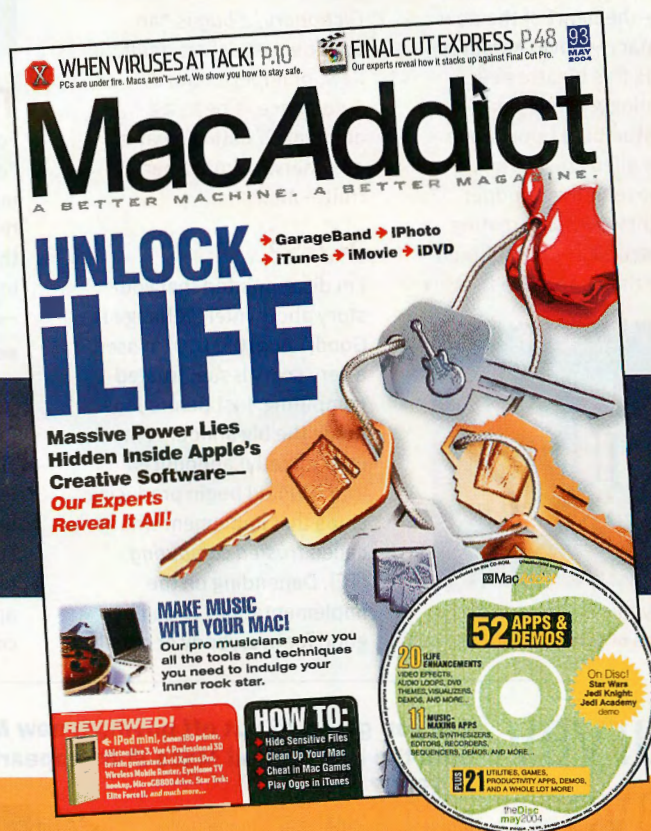
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LETTERS

DECONSTRUCTIVE CRITICISM

I like to learn by taking *things apart*. While you can learn widget-making from the samples you provided with "Create a Dashboard Widget" (Jul/05, p56), you can also look at the innards of any downloaded widget by removing its .wdgt extension. Doing so turns the widget into an ordinary folder.—*Adam Cooper Wood*

TOTALLY TUBULAR

Just wanted to share this top-secret photo I stumbled upon—the heart of the new Intel Mac. —*David Katsaros*
What is this bizarre new technology? Intel must have stumbled upon some sort of alien crash site. I'll bet those things conduct thought waves by creating microscopic, self-contained space-time paradoxes.—*Max*



Clearly this is the work of the Voxlons of E-Thrubbz VII.

BUGGED BY THE BUG

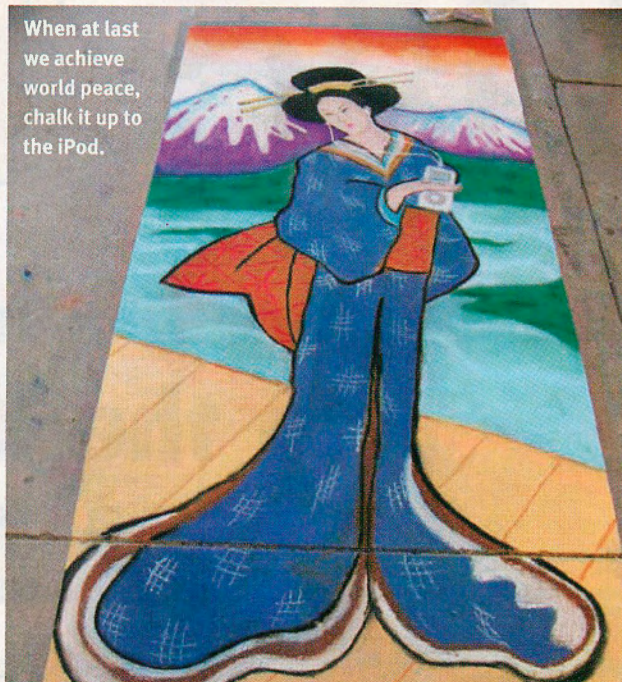
Your August "46 Bugs (and How to Kill Them All)" cover sends the wrong message—I read the article and there is not a single crash or freeze in the bunch! People see that cover on the magazine rack and think Apple is no better than a PC. Apple is better—way better—and you know it. You need to choose your words more carefully next time.—*Ned Chiariello*

That's why we didn't title the article "46 Fatal Errors." According to our copy of *Merriam Webster's Collegiate Dictionary*, a *bug* is "an unexpected defect, fault, flaw, or imperfection." A nuisance, a pest, an annoyance eating away at an otherwise most-perfect fruit.—*Max*

2+2=5?

I'm disappointed that your story about Intel ("Change Is Good," Aug/05, p10) missed a very scary issue: trusted computing. Just before Jobs made the big announcement, Intel (quietly) announced that it would begin producing chips that implement what's called *trusted computing* (TC). Depending on the implementation, TC can be good for everybody or mostly

When at last we achieve world peace, chalk it up to the iPod.



THE GREAT UNIFIER

For my third year participating in the Salt Lake Chalk Art Festival, I wanted to do something different—and different means Apple. As soon as I drew the iPod in my drawing, I received an amazing response from all types of people—from the senior citizen to the punk kid with piercings to the innocent toddler, they all reacted the same way: "I love my iPod too." —*Laura Horiuchi*

good for the copyright industries. As the Electronic Frontier Foundation (www.eff.org) notes, the most likely implementation of TC "conspicuously fails to distinguish between applications that protect computer owners against

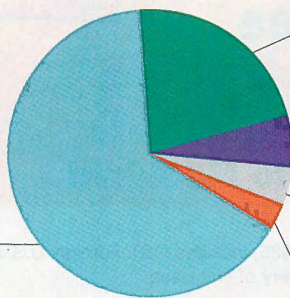
attack and applications that protect a computer against its owner." If, as part of the switch, Apple implements TC such that users lose ultimate control of their computers, our collective digital freedom will be in serious danger. —*Bill Herman*

Survey Says

Here are the results of our June 2005 survey. Check out www.macaddict.com each month for a new online poll.

Are you going to put off buying a new Mac until the Intel-based Macs start appearing in 2006?

65% A Mac is a Mac. I'll buy my next one when I need a new one—PowerPC, Intel, or whatever.



492 respondents

22% You'd have to be a drooling doofus to buy a Mac with a dead-end processor. I'm waiting for Intel Inside.

6% My Performa runs System 7.5.2 just fine, thanks—I'm set.

4% I'm so righteously cheesed-off at Apple for switching to the Dark Side that I'll never buy a Mac again.

3% I'm waiting to find out if Intel Macs will run Classic mode. If not, no Intel-based Mac for me.

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WORKING THE BLOGOSPHERE

I enjoyed your "Enter the Blogosphere" article (Aug/05, p30)—I wish it had been available when I started my blog. But in the section about making money with a blog, I was surprised you didn't mention BlogAds (www.blogads.com). Big-time bloggers along with their small-time counterparts can use this fine service to sell ad space on their blogs. They can even set their own advertising rates—some slots on the highest-trafficked blogs go for thousands of dollars a month! It's a much more-effective way to support a blog habit than Google's AdSense.—*Ben Carter*

THE POWER OF THE FIRST AMENDMENT

Re: April issue. Blogs are out. No one cares anymore.
—*Mister B*

Well, we'll just see how much you don't care when I type up a strongly worded post about you tonight, Mister B.—*Max*

PROJECTERROR

The contact information in your review of the Mitsubishi HC100U projector (Aug/05, p52) is incorrect. The correct phone number is either 888-307-0349 or 949-465-6000, and the Web site is www.mitsubishi-hometheater.com.—*Nancy Napurski, Lionheart Communications for Mitsubishi*

MAX PAIN

I noticed this while playing Max Payne: Mr. Thug's animated bullet-time death culminated in his insertion into a desk.—*Sol Kauffman*
Great, now the next time a kid inserts himself into his desk at school, who are they gonna blame? Not the parents who never taught him otherwise, that's for sure.—*Max*



They just don't make desks like they used to.

BUG FIXES

Regarding the solution for bug number 17 in your "46 Bugs" article (Aug/05, p20), which states that "there's no way to turn indexing off on a volume-by-volume basis—or stop indexing altogether," may I suggest using the powers of the Terminal (/Applications/Utilities)? Specifically, type `man mdutil` and you'll find you can turn indexing off for a specific volume by typing `sudo mdutil -i off /Volume/volumeName`.—*Bill Rowe*

In bug number 40 of your "46 Bugs" article, you suggest a method for returning Word documents that have climbed too high and gotten stuck under the toolbars. May I suggest a simpler solution? When the top of your document is too high to click on, hide the application but not the document (just click on the desktop to do so). Then click the green button in the upper-left corner of your document window. The doc automatically moves down—and you're back in Word.
—*Irene Smith*

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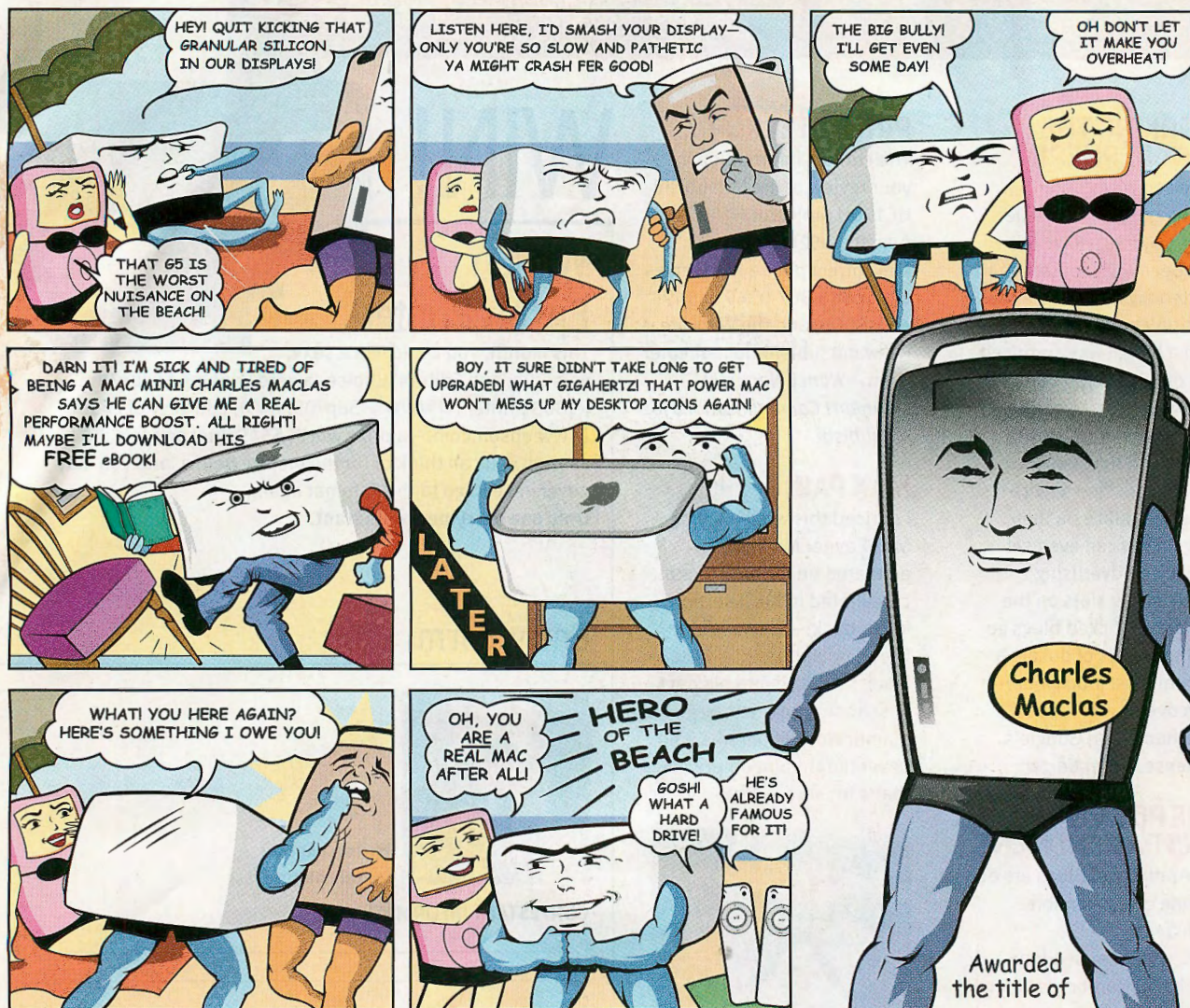
Contest Rules The judges will be MacAddict editors and will base their decision on 33 percent humor, 33 percent originality, and 33 percent creativity. All entries must be received no later than October 31, 2005, with the winner announced around February 2006. By entering this contest, you agree that Future Network USA may use your name, likeness, and Web site for promotional purposes without further payment. All prizes will be awarded, and no minimum number of entries is required. If two or more people enter identical winning captions, the entry received first will be awarded the contest prize. Prizes won by minors will be awarded to their parents or legal guardians. Future Network USA is not responsible for damages or expenses the winners might incur as a result of this contest or the receipt of a prize, and winners are responsible for income taxes based on the value of the prize received. A list of winners may also be obtained by sending a stamped, self-addressed envelope to Future Network USA c/o MacAddict Contest, 150 North Hill Dr., Ste. 40, Brisbane, CA 94005. This contest is limited to residents of the United States. No purchase necessary, void in Arizona, Maryland, Vermont, Puerto Rico, and where prohibited by law.

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